

The background of the cover features a light yellow-to-white gradient with several stylized, golden-yellow leaf motifs scattered across the surface. These motifs are simple line drawings of leaves on short stems, appearing in various orientations.

MATERIALS, METHODS, AND MASTERPIECES OF MEDIEVAL ART

JANETTA REBOLD BENTON

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Materials, Methods, and Masterpieces of Medieval Art

Janetta Rebold Benton

Praeger Series on the Middle Ages

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This book is dedicated to my children: Leland Samuel Benton, Meredith
Rebold Benton, Ethan Aubrey Benton, and Phillips Alexander Benton

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Introduction

Both figuratively and literally, the Middle Ages were very colorful. Embellishment was applied to buildings, objects, and bodies—abundant and opulent ornament preferred to the simple and subdued. Colorful paintings, mosaics, and tapestries covered walls; stained glass glittered in windows and dappled interiors with patterns of colored light; precious objects of gold and silver glittered and glowed with enamel and gems. Members of the upper class adorned themselves in elegant attire, and the clergy donned sumptuously embroidered ecclesiastical vestments, while armor was the ultimate military mode. The most intricate designs were likely to be exquisitely executed with painstaking craftsmanship, often on an almost microscopic scale. Although the visual arts of the Middle Ages were extremely colorful, today much of that color has diminished or disappeared, the pigments and threads faded, the gold abraded, the silver tarnished.

To understand and appreciate the art of the Middle Ages, perhaps more so than art created during other eras, it is necessary to be familiar with the materials and methods employed. This volume is intended to provide a comprehensive overview of the techniques utilized by artists working in Western Europe during the medieval period. Each chapter focuses on a specific medium and the materials and methods employed. The advantages and disadvantages of each medium are assessed, as are its potentials and limitations. Medieval sources of instructional advice for artists are discussed. Additionally, each chapter includes a chronological study of major masterpieces created in that medium, thereby demonstrating its development. The style of each work of art is seen to be

dependent on, and to derive from, the materials of which it is made and the manner in which these materials have been manipulated. As the French historian of medieval art, Henri Focillon (1881–1943), said so succinctly, “Style and technique are inseparable.”

Although a great many books deal with the subjects studied here, almost all discuss only a single medium. Among the books most akin to the present comprehensive study are *English Medieval Industries: Craftsmen, Techniques, Products*, edited by John Blair and Nigel Ramsey (Hambledon and London, London and New York, 2001); *Making Medieval Art*, by Phillip Lindley (Shaun Tyas, Donington, 2003); and, taken as a whole, *Medieval Craftsmen*, a series of small books, each on a specific medium (University of Toronto Press, 1991–1992).

Life during the Middle Ages

From as early as the ninth century, governments gradually centralized, communication improved, trade increased, and life centered increasingly in the cities and towns that grew rapidly in medieval Western Europe. Society became progressively more urban, and the Christian church the focus of daily life. The intellectual centers gradually moved from the monasteries to the universities—around 1200 the University of Paris and other universities took the lead in education from the cathedral schools.

Yet life was frequently unstable. Food might be scarce, as during the famine of 1315 to 1317. Illness was a constant threat, the most infamous malady being the Black Death (bubonic plague), characterized by raised and darkened plague sores over the body, usually dispatching its victims within several days. There was no understanding of the cause of this disease—“bad air” was suspected. In fact, the plague was carried by fleas on rats, brought on merchant ships to Western Europe from the Near East. Although demographic estimates vary, the worst outbreak of the plague in the summer of 1348 claimed the lives of one-third to one-half the people of Western Europe. Revolts and wars were frequent; the so-called Hundred Years War between France and England actually lasted even longer—from 1337 to 1453. Between recurrent occurrences of the plague and the Hundred Years War, Western Europe suffered devastating depopulation. Among the results were economic decline and major changes in social structure. The clergy became less powerful while secular authority grew stronger, evidenced most overtly by the increasing ability of kings to tax the clergy and the consolidation of power in governments.

Medieval Artisans and Guilds

The level of technical skill and manual dexterity displayed by medieval artisans has rarely been equaled in any other era. The importance accorded to careful craftsmanship during the Middle Ages, and the high standards of the guilds and corporations that regulated this, cannot be overestimated.

Medieval art usually was produced in a workshop (*atelier* in French, *bottega* [plural *botteghe*] in Italian) in which a master trained students and/or apprentices, and assistants executed works of art under the guidance of the master. A master had achieved the recognition required to fulfill commissions independently or with the assistance of hired assistants. Such workshops were governed by guilds or corporations according to a system that was rigidly structured and highly regulated by both custom and law. The guild issued ethical opinions about the conduct of its members and might impose punishments for transgressions. Artisans practicing the same profession or trade tended to live in groups within their communities.

In France, artisans formed “corporations” or “*métiers*”—professional trade associations. The approximately 120 corporations in Paris at the time of King Louis IX (mid-thirteenth century) were of two forms: (1) the *métiers jurés*—“sworn” trades organized by the artisans themselves, and (2) the *métiers réglés*—regulated trades organized by public officials. These organizations were often religious in orientation, called confraternities. Of the trade organizations, the metalworkers’ corporation was the wealthiest due to the value of the precious metals and gems from which they fashioned objects. The fourteenth-century author Jean de Jandun wrote about the great many artisans in Paris, noting that there were excellent chisellers of metal vases, mostly of gold and silver, but also of tin and copper, banging their hammers in a harmonious cadence.

Medieval Italy had an equally structured system by which various professions were organized in guilds composed of apprentices and masters. A boy usually followed his father’s career. Panel painting was often a family business, with fathers, sons, and brothers working together. An artist worked with apprentices, and perhaps with other masters. In Italy, apprenticeship seems to have varied from three to eight years. On completion of a “masterpiece” that demonstrated his high level of ability and accomplishment, the apprentice advanced to the status of master and was able to instruct students of his own. The division of labor between the apprentices and a master might result in the appearance of different

levels of skill on a single finished work of art. For painters, the guild controlled the materials used, production, and sales. A painter who wished to practice his craft was required to belong to the guild. In Florence, painters were members of the guild of doctors and apothecaries, as were barbers and saddle makers.

Each profession had its own patron saint. Saint Luke, believed to have been a painter himself, was the patron saint of artists, painters, sculptors, glass makers and stained glass workers, bookbinders, and lace-makers. Painters were usually obligated to observe some feast days, especially that of Saint Luke. (Luke, a physician, was also the patron of physicians and surgeons, as well as of butchers, among others.) The patron saint of smiths and metalworkers was Saint Eloi (Eligius) (c.588–660), a French goldsmith and later bishop of Noyon and Tournai.

Medieval Patronage

Medieval works of art were usually made on commission and, on rare occasion, contracts for works of art have survived. The Church, the major source of artistic patronage during the Middle Ages, usually commissioned art with didactic subjects. The depiction of the specified subject was largely controlled by the tradition established in religious iconography: consistency in representation assured intelligibility by the intended audience. Similarly, a private patron would probably have stipulated the subject to be depicted as well as the size of the work and the materials to be used. The impact of the patron—private or ecclesiastical—on the appearance of a work of art surely varied, but a medieval artist was unlikely to be free to create as he chose. The statement made by Franco Sacchetti (c. 1335–c. 1400) that there were routinely four or five unfinished crucifixes awaiting purchase in the shop of the artist Mino da Siena, however, indicates that Mino could be sufficiently sure of a market for certain subjects that it was worth his while to paint on speculation. In general, however, the practice of artists creating largely to satisfy their own aesthetics and selling their work later through a gallery or dealer became common only in the later nineteenth century.

Artistic Anonymity

A medieval work of art is likely to display an artisan's technical skills rather than his or her personal idiosyncrasies, preferences, and proclivities. Today's concept that artistic innovation and the expression of

individual artistic style are intrinsically desirable was unfamiliar to the people of the Middle Ages. Instead, creativity, with only the rarest exceptions, was obscured by a social system that favored anonymity. Fine materials and skilled technical execution were valued above innovation.

The person who would today be called an *artist* was regarded as an *artisan* practicing a craft. A medieval panel painter produced not only panels intended for the high altar of a cathedral or for a wealthy private patron, but also decorated items such as saddles, book covers, and banners. Even at the close of the Middle Ages, painters still did not enjoy the high social status they would achieve in the Renaissance. The distinction between craft and Fine Art developed only with the arrival of the Renaissance, when the concept of artistic inspiration as divine in origin developed and the artist, believed to be gifted by God, consequently was elevated above others. Because of the medieval emphasis on craft and the disinterest in individual artistic accomplishment, only finely finished work was valued—as evidenced by the rarity of surviving preliminary sketches or studies from the Middle Ages. In contrast, sketches made by Renaissance artists were collected and preserved as important evidence of an individual's artistic gift.

Transmission of Information

Although most people who lived in medieval Western Europe spent their entire life in or near the village or city of their birth, there were significant exceptions. This was the era of the pilgrimages and crusades—travelers returned to Western Europe with ideas from Asia, Africa, and Islamic Spain. Merchants and traders traveled extensively. Ideas about art were equally as mobile. Itinerant workshops and individual artists moved from one location to the next, finishing a job and then moving on to another. Ideas and images were spread through the use of easily transported model books, and it was common practice for one artist to copy the work of another without the negative connotation of plagiarism. Instructional manuals for artists spread ideas on technique, working methods, materials, and style. The result was a thematic and stylistic cohesiveness to medieval art, enlivened by the variety that resulted from the local availability of materials, technical preferences, patrons' tastes, and, to a limited degree, artists' personal styles.

The traditions of classical antiquity, the barbarian invasions, and the Byzantine East fused during the Middle Ages. The medieval tendency to perpetuate the past, encouraged by the Church's disdain for scientific

investigation and experimentation, succumbed by the end of the era to the human instinct for discovery, to the curiosity that leads us to seek ideas that are new, and to our innate need to improve and perfect what we have. The result is a history in which new materials and working methods were continuously introduced.

A Few Words about the Dates of the Middle Ages

There is little agreement about when the Middle Ages began or ended. Effective and consistent use of the term Middle Ages would require a consensus of opinion on when the preceding period concluded, and when the following period started. But ages, styles, periods, epochs, and eras are not often neatly delineated in history. The rare exceptions are likely to be linked to wars or catastrophic natural events that occurred at fixed dates. In the case of the Middle Ages, the countless date debates are outside the focus of this volume. The earliest examples included are from the Early Christian era, and the latest is prior to 1400 in Italy, by which time the Early Renaissance had arrived there, and prior to 1500 in northern Europe, where the Middle Ages persisted for a longer time.

Note: Color plates are numbered sequentially. Black and white photos are numbered sequentially within each chapter. The locations of objects that are not illustrated are given in parentheses and may include accession numbers.



Manuscript Illumination: Miniature Masterpieces

Materials and Methods of Medieval Manuscripts

Medieval manuscripts are books that are handwritten, the word manuscript coming from the Latin *manus*, meaning “hand,” and *scriptus* from *scribere*, meaning “to write.” (In contrast, books printed or block-engraved prior to 1501 are called *incunabula*, from the Latin for “cradle” or “birthplace.”) Most books were the property of the Church: every monastery and church required Bibles, psalters, missals, and other books for religious study, formal rituals, and moral instruction. Most monasteries had libraries. Books were also commissioned by individuals for their private devotions.

Monasteries were vital in the perpetuation of literature and in the creation of art. Long before Johannes Gutenberg and the invention of movable type in 1436, monks copied books, working in the scriptorium of their monastery. This was done slowly and tediously by hand. Often the text to be copied was already filled with errors in the Latin, to which the copyist then added his own. These errors were often misspellings, but there were also errors of omission and dittographical ones. The result is that the lineage of a manuscript can sometimes be traced by its errors! Only a few monasteries had skilled artisans who illuminated manuscripts. Gradually, monasteries ceased to be the sole source of manuscript production as secular studios specializing in such work appeared.

The terms used to describe a manuscript differ from those used to describe today's books. Thus the pictures in a manuscript are referred to as *illuminations* rather than as illustrations. Each page of a manuscript is referred to as a *folio*, the front being the *recto*, abbreviated as *r*, and the back the *verso*, abbreviated as *v*.

A very long history precedes the production of medieval books. In antiquity, information was written on papyrus, parchment, or cloth and rolled around a central core of wood, bone, or ivory, consequently called a *roll* or *rotulus*. In the Early Christian era, the roll was progressively replaced by a *codex*—a book formed by folding one or more pages and sewing them together. These *codices* (plural) were often bound together within covers made of wood or some other durable, and sometimes sumptuous, material.

Most manuscripts are written on animal skin, known as *parchment* or *vellum*. The word parchment derives from the name of the east Greek city of Pergamum (in western Turkey) that flourished in Hellenistic times. The Roman Pliny the Elder (d. 79 CE) wrote that King Eumenes II (197–158 BCE) of Pergamum invented parchment in the second century BCE when there was a trade blockade on papyrus. This material was called *pergamenum* in medieval Latin. The word vellum comes from the French *veau*, meaning “calf,” or *vitellus* in Latin. Technically, parchment is made from the skin of a cow, while vellum comes from that of a young calf. Vellum was known in the Middle Ages as “veal parchment.” The finest, which was especially thin and silky, called “uterine vellum,” was made from the skin of stillborn or newborn calves. So very many manuscripts are claimed to be on uterine vellum as to suggest an unfortunate, and unlikely, situation for medieval cows! In fact, only a good dermatologist using a magnifying glass can distinguish one kind of skin from another. To complicate the situation, sheep skins, which tend to be cream or yellowish in color, and goat skins, which tend to be grayish, were also used, the latter being especially popular in Italy. Deer, pig, hare, and squirrel skins were also probably used to make manuscripts. It should be noted that the terms parchment and vellum are often used interchangeably. For example, at the Bodleian Library in Oxford, the term used is parchment, yet in the British Library in London the term used for the same material is vellum.

Preparation of parchment is a long and complicated process. Medieval manuals for the many required stages survive, with some variation between the instructions offered. The importance of selecting good

skins is emphasized. First, the skin is washed in cold, clear, running water for one day and one night or, as one set of instructions says, until it is “clean enough.” Next, the damp skin is placed in the sun. Alternatively, it may be soaked in a vat of lime and water for three to ten days, and stirred several times each day with a wooden pole. The skin is removed from this solution and the fur is pulled, rubbed, and scraped away. The skin is turned over and any remaining bits of flesh are scraped away. This procedure is followed by rinsing the skin for two days in fresh water to remove the lime. The skin is then stretched taut on a wooden frame and is kept wet with hot water. Both sides of the skin are scraped with a *lunellum*, which, as the name suggests, is a tool shaped like a crescent. The skin shrinks as it dries, and is thus stretched tighter. When a smooth, thin, even surface has been achieved, the skin is again wetted and then rubbed with pumice to further smooth it. Although there is little supporting evidence, it has been suggested that a single sheet of parchment may have been split to form two extremely thin sheets.

Parchment is very durable but tends to be uneven in thickness and color. As the reader slowly turns the folios of a medieval manuscript, the parchment feels thick, stiff, and a bit furry. The side with the hair, the *grainside*, is darker and tends to curl in on itself, becoming concave. The flesh side is likely to be much whiter, smoother, and tends to become convex.

During the Romanesque period, one person completed the entire job of manuscript production in the scriptorium of a monastery. The monk-artisan prepared the parchment or vellum, cut the skin into rectangles, and then ruled the lines. On this surface he copied the text and painted the illuminations.

In the Gothic period, the different tasks were likely to be done by professionals who were not monks but laymen. Manuscripts were produced according to a division of labor between: (1) the parchmener or “percamenarius,” who made the parchment or vellum, a member of a well-known profession during the late Middle Ages; (2) the copyist, a professional scribe (perhaps a cleric) or student, who laboriously copied the texts; (3) the copy illuminator who decorated the letters and borders; (4) the illuminator who painted the illuminations, working from written instructions, sketches, and model books; and finally, (5) the binder who stitched the folios together.

A thirteenth-century French manuscript illumination depicts the purchasing of sheets of parchment in a shop. A parchment-seller’s shop is

shown in a fifteenth-century Italian chronicle—skins are cut into rectangles and a skin is rubbed with chalk, while on the shelf above are rolls and sheets of prepared parchment, ready for sale. Sheets were sold by the dozen or by the box. Only the scraping remained to be done before the parchment was used. Even the ink and gold leaf could be purchased ready-made, although artists continued to grind their own colors.

It is possible to reuse a parchment folio by cleaning the original writing and/or image through washing, rubbing, and bleaching. The resulting *palimpsests*, more economical in terms of time and money than the preparation of new parchment, were utilized throughout the Middle Ages.

Prior to doing the actual writing, the scribe gave the parchment a final rub, buffing the surface with fine pumice and smoothing it with chalk to remove any grease. Guide lines were drawn on the parchment. Just how this was done is recorded in a twelfth-century illumination in the *Dinant Gospels* (John Rylands University Library, Manchester, Rylands Latin Ms. 11, folio 14) in which Saint Matthew is seen scoring lines across double pages of a manuscript with a rule.

Some medieval manuscripts were made on paper rather than parchment. Less expensive than parchment, paper was used for books intended for students and clerics. Paper was invented in China, probably in the second century. Paper mills are recorded in Spain and Italy by the thirteenth century; in France by c. 1340; in Germany by 1390; and in England probably not until the later fifteenth century. During the Middle Ages, paper was made from linen rags and was therefore much stronger than today's paper made from wood pulp. When printing was invented in the 1450s, paper was suddenly in demand. Paper then became much cheaper than parchment which consequently came to be used only for luxury books. An inventory of the library of the dukes of Burgundy made around 1467 lists more than 900 books, of which 196 were on paper and two were noted to be part paper and part parchment.

In addition to parchment and paper, some medieval books were made of *papyrus*, an Egyptian reed. Because papyrus is not as strong as parchment, it is better for scrolls than for bound books. The word papyrus is the basis of today's word "paper."

Reed and quill pens were used to write manuscripts during the Middle Ages, the quill supplied by a goose or a swan, although goose quills were said to be the best. The nearly microscopic detailed work may have been done with crow or raven quills. The method of crafting a quill begins by hardening the feather either by allowing it to dry out, or by soaking it in water and putting it in heated sand. The outside is then cleaned by

scraping and rubbing. The tip is shaped with a pen knife. A slit is cut in the center of the nib and finally the end is cut off so that it is squared. A book of hours made c. 1430 includes an illumination in which Saint Mark is depicted sharpening his pen with a knife.

The text was written in ink. Medieval recipes survive for the two kinds of ink used. The simpler is *carbon ink* made from charcoal or lamp black mixed with gum. More complicated is the manufacture of *metal-gall ink* from the oak “apple” (or *gall nut* or *nutgall*), a spherical tumor the size of a small marble that forms on oak trees when a gall wasp lays her eggs in a tree bud. The chemical reaction of iron gall (tannic acid) combined with ferrous sulfate and gum causes the mixture to become black. Metal-gall ink was the norm for most later medieval manuscripts. The copyist, working in the scriptorium, might hold the ink in an *inkborn* for convenience, as recorded in a number of medieval manuscripts. This writing ink (as opposed to drawing ink) will remain in good condition, the words legible for hundreds of years. Preservation is improved if it is protected from exposure to light.

In addition to black ink, other colors of ink were also used. Red ink might be used for headlines (rubrics), for words needing emphasis, and in calendars—hence our expression “red-letter days.” Occasionally the lettering was done partly or even completely using precious metals such as gold or, less frequently, silver on vellum that might be tinted, a technique known as *chrysography* that was developed by the ancient Greeks and found in medieval Europe from the sixth to the tenth century. A representation of *Saint John the Evangelist Writing his Gospel*, in an initial in an early thirteenth-century Parisian manuscript (Bibliothèque Municipale, Rouen, ms. 96, folio 91 recto), shows holes along the right edge of John’s desk that contain pots of different colored inks. Depictions of *Saint John Writing his Book of Revelation* (for example, Newberry Library, Chicago, MS 43, folio 13 recto) may show the devil stealing John’s inkpot and pen case to prevent him from writing this book, *The Apocalypse*, the last book of the Bible. An eagle, John’s symbol, may then be shown bringing him a replacement inkpot and pen case.

The manner in which the scribe worked as he copied the text, with a quill pen in the right hand and a knife in the left, is recorded in a number of medieval manuscripts. For example, Lawrence, prior of Durham 1149–1154, is depicted in the process of writing his manuscript, which is still at Durham (University Library, Durham, MS Cosin V.III.1, folio 22 verso). Similarly, Peter Lombard is shown writing his *Great Glosses on the Psalms and on the Epistles of Saint Paul* with a quill and knife in the initial P in a very

early thirteenth-century manuscript fragment (private collection, London). Peter Lombard taught in Paris from around 1134 to 1158; his writings became widely read university texts and remained so for centuries. These and other manuscript illuminations show that the knife was used to sharpen the pen, to erase mistakes, and to hold down the parchment folio. When writing, the quill is shown held at a right angle to the parchment.

The scribe left spaces for the illuminations and provided the illuminator with instructions in varying degrees of detail. After the scribe's work was complete, the illuminator began. This artist's preliminary sketch or underdrawing was made in *plummet* (lead), graphite, or charcoal. Next, the "crisping up" of the sketch was done in ink. Application of color would be the final step.

That the drawing and coloring might be executed by two different people is implied by finding in some illuminations a tiny letter in the center of each area to be colored that indicates which color was to be applied there, presumably by another individual. An example is a scene from the *Life of Saint Paul* in a twelfth-century manuscript, perhaps made in Winchester (The Bodleian Library, Oxford, MS Auct. D.I.13, folio 1).

Instruction in artistic skills and techniques was usually offered by a master to an apprentice, or by a parent to a son or daughter. Information was also available in model books that provide step-by-step instructions on how to paint different subjects, such as the German *Göttingen Model Book* (Niedersächsische Staats- und Landesbibliothek, Göttingen, Cod. Uffenbach 51), made in the Middle Rhineland, in the mid- to second half of the fifteenth century. To copy designs from model books, from pattern sheets made for this purpose, or from another artist's work was common practice that carried no negative connotation. Dozens of model books and pattern sheets survive from the Middle Ages. These models were highly valued: a lawsuit brought in 1398 charged the illuminator Jacquemart de Hesdin with robbing the painter John of Holland by breaking into his strongbox and taking paints and patterns. John of Holland, evidently, had correctly assessed the need to protect his patterns, although even a strongbox proved to be an insufficient deterrent to theft.

Pattern sheets were employed in various ways. The image was traced onto transparent paper and then copied onto the folio to be illuminated. Alternatively, the image was transferred directly to the folio by *pouncing*, a method in which prick holes are made through the pattern sheet along the lines of the drawing, this sheet was placed on the folio, and charcoal dust (held in a small cloth sack) was tapped along the prick lines, the

dust going through the holes and leaving a series of dots outlining the image.

To facilitate ease of reading, the text in early manuscripts was divided into sections by the use of decorative initials. The amount of embellishment varied depending on whether the initial marked a new chapter, a chapter division, or a subdivision. Thus a hierarchy of ornament offered a readily recognizable key to the organization of the text.

Correctly speaking, an “illuminated manuscript” makes use of *gold leaf*. Small sheets of gold were made by placing a lump of soft gold between two pieces of leather and hammering on the leather until the metal was thinner than paper. It is possible to beat gold into a foil so thin that light may be seen through it. Because it is an especially inert metal, gold neither tarnishes nor dulls with time. (Silver, in contrast, tarnishes rapidly and is less malleable.) Use of gold in a manuscript is intended to enrich the sumptuousness of the decoration and to reflect light. Gold leaf is applied before the color because the gold will otherwise adhere to the pigment. Additionally, the process of *burnishing* or polishing the gold requires a degree of pressure, which might cause damage to the surrounding color. To polish the gold, a *burin*, comprised of a bear or dog tooth mounted on a wooden handle, is rubbed over the surface.

Three distinct methods of applying gold to manuscript folios were used. In the first, glue and *red bole*, a reddish brown earth pigment, were applied to the areas to be gilded. The gold leaf was put in place, allowed to dry, and then burnished to a shine. In the second method, a three-dimensional design was made with sticky *gesso*, a thick white paint. Gold leaf was applied and burnished, creating the appearance of thick gold. This might be carefully impressed with a design, much as gold leaf is tooled on a wooden panel. In the third method, powdered gold was used like any other pigment. The gold powder was mixed with gum arabic and applied with a brush or pen. This, in contrast to the other two methods, was done after the other colors are applied. Two or all three of these methods could be combined in a single illumination.

The Cistercians, a religious order favoring rigid austerity in the use of decoration in their architecture and other art forms, permitted their manuscripts to be embellished with color. But the use of gold was not allowed.

Frazer Rufillus of Weissenau painted his self-portrait in an initial R in a *Passionale* from Weissenau, in the diocese of Constance, c. 1170–1200 (Bibliotheca Bodmeriana, Geneva, Cod. 127, folio 244, Legendary). In fact, he shows himself in the process of illuminating this very

manuscript! He holds his brush and a container of paint, while other colors are on the table behind him.

Paint, no matter the type, consists of ground pigment mixed with a binder. The binder may be any of several adhesive substances that holds the particles of pigment together and causes them to adhere to a support. Pigments were derived from a variety of sources—animal, vegetable, and mineral—and a wide range of colors are found in manuscript illumination. Red, the color used most frequently, might be made from natural cinnabar which is mercuric sulfide. Vermillion red, a poisonous pigment, was made by heating mercury and sulfur, and then collecting the vapor deposits and grinding them. Red was also made from plant extracts such as that from brazilwood or the madder root. Dragons-blood red was made from the sap of the *pterocarpus draco* shrub, although medieval encyclopedias claim it is made from the “mingling of the blood of elephants and dragons which have killed each other in a battle.” After red, blue is the next most common color in medieval manuscript illumination. Blue pigment may be made by powdering azurite, a blue stone. Blue may also be made from plants—from indigo, or woad, or turnsole which is called crozophora. The most highly valued blue was made from ultramarine—lapis lazuli, a semi-precious stone that occurs in various parts of the world: that used during the Middle Ages came from the region of Afghanistan. Green was made from malachite as well as from verdigris. Yellow was produced from volcanic earth, from the mineral orpiment, as well as from saffron. White pigment came from poisonous lead white.

The following types of binders were used during the Middle Ages:

1. *Glair* was used especially for manuscripts and was the standard medium for illumination. Glair is made from egg white and water. Medieval recipes say to beat, whip, or squeeze the egg white with a sponge until it becomes a frothy liquid or until stiff; it improves with additional beating. Two to three ounces of water are added and the mixture is allowed to stand overnight. The result is a liquid that is colorless, but apparently not odorless; it was described as having a “rank odor.” Glair was used especially for pale colors.
2. *Gum arabic* was used as a binder, beginning particularly in the fourteenth century. Gum arabic is stronger than glair; the two could be mixed. Exactly what medieval gum arabic was is not known with complete certainty. It is the gum of a tree, presumably one of those of the *Acacia* genus, which is water-soluble and forms a thin jelly in water, although the gum of another tree might also have been used. Additionally, gums were made from fish lime.

3. *Animal size* was used as a medium for manuscript illumination, especially for blues. Size is practically pure gelatin and is made by boiling bits of parchment and skin.
4. *Egg yolk*, which is the usual binder for tempera paintings on wooden panels (see Chapter 2), was not used alone as a binder for manuscript illumination. However, if a bit of egg yolk is added to one of the binders noted above, the colors are made glossier and thus more lustrous.
5. *Ear wax* is surely the least expected ingredient used in medieval manuscript illumination. As described above, glair was made by beating egg white to a froth and then letting it stand until it became a liquid. When the pigments are then ground with the glair, it returns to a frothy form and, when the bubbles dry, unwanted tiny holes pit the surface of the painting. However, the addition of ear wax changes the surface tension so that bubbles do not form. This advice is recorded in *De arte illuminandi*, a treatise written in the mid-fourteenth century on the art of manuscript illumination. It is said that "This curious bit of knowledge spread all over Europe ..."

After carefully painting the forms, the last step in the illuminator's work was to go over the drawing of the faces, hands, and other details with black ink.

Next, the book was assembled. A pair of pages is called a *bifolia*, several of which are arranged inside one another and stitched along the center fold. Each *clutch* of bifolia thereby formed is called a *gathering* (or *quire* or *signature*), several of which are assembled to create a medieval manuscript. The work of the scribe and illuminator was divided by the gatherings—usually four bifolia, which is to say eight leaves, although gatherings might also be made up of twelve to twenty-four leaves. A commercial scribe billed customers by the gathering.

The final step was binding the manuscript. A tenth-century inscription says the late seventh- or early eighth-century *Lindisfarne Gospels* (British Library, London, Cotton MS Nero D.IV) were bound by Bishop Ethelwald "as he well knew how to do." Later books were bound by the stationer or the bookseller. To do the binding, the gatherings were sewn to each other. An understandable concern was maintaining the correct sequence of the gatherings. The earliest manuscripts have a number or a letter written on the last folio of each gathering. But by the twelfth century, when many more manuscripts were being made and there was greater chance for confusion, the practice of using a *catchword* developed. Written on the lower inner corner of the last folio of each gathering, the catchword is also the first word of the following gathering.

The scribe might add an *explicit* at the end, which could be his or her name (many scribes were women). Concluding colophons are revealing and sometimes also amusing. In one dated to c. 1300, the scribe says he is relieved to have finished and that he wants a drink and considerable payment. Some colophons add the request for eternal life, or good wine, or even a pretty woman.

The first and last gatherings were knotted to the book covers or sewn to bands, thongs, or cords. Book covers were likely to be made of wood and were usually covered with leather that might be tooled. But a book cover could also be very elaborate, the ultimate extreme demonstrated by the upper cover of the Carolingian *Lindau Gospels*, one of the most sumptuous of all times, made c. 870 of gold and set with gems (Photo 6.2). Similarly splendid is the cover of the *Codex Aureus of Saint Emmeran* (Bayerischen Staatsbibliothek, Munich), made at approximately the same time, of chased gold, pearls, and precious stones. Book covers might also be adorned with ivory plaques carved with individual figures or narrative scenes.

When a manuscript was finished, it was read for the inevitable errors. Corrections were made in a variety of ways. Notations might be written in the margins. Offending portions might be erased by scraping them off with a knife. A row of dots was placed under words that did not belong there—as when a phrase had been copied twice, the dittographical error referred to previously.

Manuscripts were luxury items, commissioned above all by religious institutions, as well as by royalty, members of the court, wealthy burghers, and even by wealthy students. The price of a manuscript was determined according to the different fees for the parchment, writing, illuminations, and the binding and covers.

Masterpieces of Medieval Manuscript Illumination

The most celebrated extant book of the early Middle Ages was created by Irish monks and is known as the *Book of Kells*, dated between c. 700 and the early ninth century, most likely c. 800; the exact date and place of origin are both unknown. (Today it is in Trinity College in Dublin.) The exquisite beauty of such a manuscript was intended to indicate the importance of the text contained within. With its sumptuous illuminations, the *Book of Kells* was not meant for daily use but was instead created as a work of art, presumably to be used only on very special occasions.

The *Book of Kells* contains the Latin text of the four gospels of Matthew, Mark, Luke, and John. The depiction of Saint John (Color plate 1) demonstrates that the finest craftsmanship may be combined with a disinterest in realism, as seen in John's exceptionally odd anatomy. John is distilled to a two-dimensional decorative design, flat and frontal. His undulating drapery offers no hint of a body beneath. Surrounding John, a symmetric geometric pattern is filled with curvilinear shapes comprised of "animal interlace"—birds and animals so elongated and intertwined that they are hardly distinguishable from ribbons. The folio is entirely covered with dense animated and vigorous ornament, the effect enriched by the swirling and curling patterns. Execution of the drawing is precise; the circles are created with a compass. The scale of the work is nearly microscopic and a magnifying glass will prove helpful if all details are to be appreciated. A head, hands, and feet appear at the edges, suggesting an extremely elongated figure behind Saint John.

From the Carolingian era comes the *Gospel Book of Archbishop Ebbo of Reims*, illuminated for Archbishop Ebbo in the early ninth-century, which contains a representation of *Saint Mark* (Color plate 2) shown writing. He looks up, as if seeking inspiration from his symbol, the lion. Mark, one of the four Evangelists, is identified by the winged lion, whereas Matthew's symbol is the winged man or angel, Luke's is the winged ox, and John's is the eagle. Here Mark has dynamic energy, his agitated drapery swirling as if blown by a very strong wind, flame-like, nervous and moving. The landscape is also oddly animated; the hills sweep up in a motion that engenders emotion. Mark writes with a quill and uses an inkwell, while his fellow Evangelist Luke is depicted in this manuscript holding an inkhorn. Emperor Charlemagne, for whom the Carolingian epoch is named, encouraged a revival of the antique. Consequently, the human figure regains the importance and three-dimensionality last seen in ancient Roman painting, here, however, infused with a new energy.

The *Gospel Book of Otto III* comes from the late tenth century or c. 1000 during the Ottonian era. Only rarely is there a relation between facing manuscript folios. However, in this manuscript, personifications of *Four Provinces Paying Homage to Otto III* are shown as if walking left to right, from the verso of one folio to the recto of the following one (Photo 1.1). There they encounter the *Enthroned Otto III Surrounded by Ecclesiastic and Secular Dignitaries* in which the emperor is flanked by pairs of representatives of the religious and military sectors. Otto's large size makes clear that the illuminator used scale less as it relates to relative position in space than to relative position in the social hierarchy. The

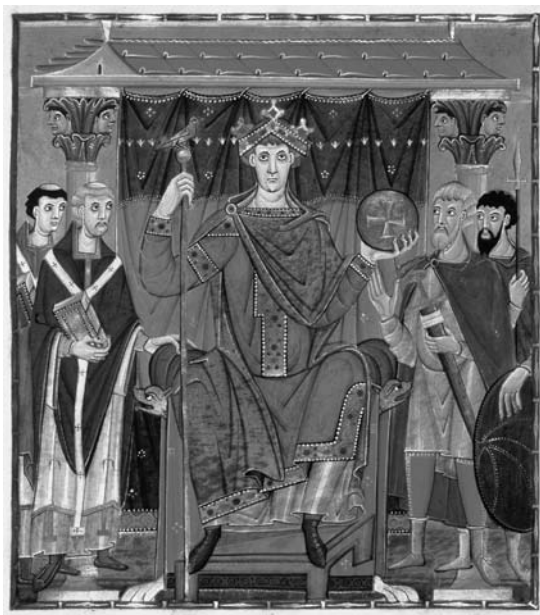


Photo 1.1 *Entroned Otto III Surrounded by Ecclesiastic and Secular Dignitaries*, folio in the *Gospel Book of Otto III*, German, late tenth century or c. 1000, manuscript illumination, 13 × 9 3/8 in. (33 × 23.7 cm.). Bayerische Staatsbibliothek, Munich (Clm. 4453, folio 24 recto). The Bridgeman Art Library.

perspective of Otto's throne twists so that the viewer may be impressed by the engineering of a roof supported on only two corners.

Romanesque manuscript illumination is represented by a depiction of the *Evangelist Mark* included in a gospel book from the monastery of Corbie in northern France (Bibliothèque Municipale, Amiens, MS 24, folio 53), dated to the late eleventh century. Romanesque figures often appear animated, if not agitated, and Mark's pose is indeed convoluted. In this convulsed depiction, everything twists—lines, columns, drapery—even the admirably acrobatic lion, Mark's symbol, rhythmically tumbles headlong down from the arch above. The drapery forms perfectly pressed pleats and folds that fan out at the hemline, a typical Romanesque costume convention also seen in depictions of clothing in other media. Firm outlines are filled in with color. No illusion of space is created; the absence of modeling with light and shade instead imparts a flat effect. The image of Mark is simultaneously didactic and decorative. This emphasis on abstract lines, characteristically Romanesque, is

evidenced also by an illumination of Saint John in the *Gospel Book of Abbot Wedricus*, c. 1147, perhaps made in Canterbury or Cambrai (Société Archéologique, Avesnes-sur-Helpe). The linear drapery patterns are independent of the body beneath. John's halo cooperatively conforms to the curve of the trefoil border. And John dips his pen into an inkwell held by the helpful Abbot Wedricus in the border. Above, the Holy Spirit in the form of a dove comes from God's hand to inspire John and appears to whisper in his ear. John's symbol, the eagle, is included on the left while other medallions in the border show scenes from his life.

Initial letters received special embellishment. The Romanesque affection for decorative abstraction in manuscript illumination and other arts is seen in the initial R with *Saint George and the Dragon*, in a copy of Saint Gregory's *Moralia in Job*, made at Cîteaux, near Dijon, in the early twelfth century, by English monks (Bibliothèque Municipale, Dijon). The letter R is cleverly created by George, who is about to slay the two-headed dragon with a foliate tail, and is supported by a small assistant who has already run his spear through the dragon's abdomen. The composition consists of a series of concentric curves, linking the entire cast of characters.

A special type of manuscript, popular from the twelfth through fourteenth centuries, is the *bestiary*, or "book of beasts." These small volumes contain encyclopedic compilations of medieval animal lore and symbolism, although an animal's inclusion in the bestiary did not require its actual existence. Each animal was described in detail including habitat, habits, appearance, diet, and disposition, followed by an interpretation of this information offering moralizing models the reader was either to emulate or to avoid. Early bestiaries are Latin translations of a late antique source known as the *Physiologus* (*The Naturalist*); the original text, itself a compilation of earlier sources, is now lost. The bestiary includes more than one hundred creatures, organized into categories of beasts, birds, fish, reptiles, and vermin. The English *Workshop Bestiary* (Workshop Priory), perhaps made in Lincoln or York, prior to 1187, is thoroughly illustrated. The unicorn (Color plate 3) portrayed in the *Workshop Bestiary* is shown with blue fur and a green horn, thus deviating from the usual depiction of this animal with white fur and a single white horn, the identifying attribute of a unicorn. However, the illuminator depicted the usual and only successful method of capturing a unicorn: having a fatal attraction to virgin ladies, he is drawn to one, puts his head in her lap, and falls asleep or into a trance, rendering himself vulnerable to the hunters. The unicorn is

therefore interpreted morally as Jesus who becomes vulnerable through his birth from the Virgin Mary.

The *Carmina Burana*, a German secular manuscript, is a collection of 228 poems dealing with the pleasures of love, drink, and nature compiled in the late twelfth or early thirteenth century and illuminated in the early thirteenth century (Bayerischen Staatsbibliothek, Munich). Included in this manuscript is a depiction of a landscape in spring or summer, the first appearance of pure landscape in Western art since late classical times. Although hardly an attempt at scientific representation—the plants are unidentifiable to even the best botanist—this illumination nevertheless conveys the mood of a season of new growth. The inclusion of small animals interspersed among the imaginative flora adds to the atmosphere of teeming life. Nature's forms are used as a point of departure to create a decorative evocative design.

During the mid-thirteenth century, especially in Paris under Louis IX, builder of the Sainte-Chapelle there and known as Saint Louis, there was great activity in manuscript illumination. With its new university, Paris was a cultural center as well as the focus of European manuscript painting, its various ateliers influencing all of Western Europe. The celebrated Gothic *Psalter of Saint-Louis* was created in the mid-1260s for the king. Shown here is *Abraham Presenting Booty and Prisoners to Melchizedek*, the priest-king (Photo 1.2), one of seventy-eight scenes from the Old Testament in this elegant manuscript. Realistic relative scale is disregarded, as evidenced by the disparity between the figures, animals, and buildings. All the scenes employ a similar layout: a depiction of contemporary Rayonnant Gothic architecture with radiating tracery, rose windows, pinnacles, and pointed arches forms the background and simultaneously frames the composition. After the mid-thirteenth century, manuscript illumination was significantly affected by contemporary architecture and stained glass; the heavy outlines are similar to the leading used in stained glass windows. In this scene and others, such as *Joshua Bidding the Sun to Stand Still* or *Abraham Entertaining the Angels*, symmetry is stressed with the background divided into two halves. Crowded and compressed, the two-dimensional background emphasizing the picture plane contrasts to the three-dimensional modeled figures. With their tiny heads, slender extremities, and elegant swaying poses, these delicate figures exemplify the refined art favored by the French court. Many heads are clustered together, a shorthand method of indicating a large number of people in a small space that does not allow for an equal number of bodies, descriptively called the “grape-cluster method.” The soldiers' suits of mail provide excellent documents of early defensive attire.

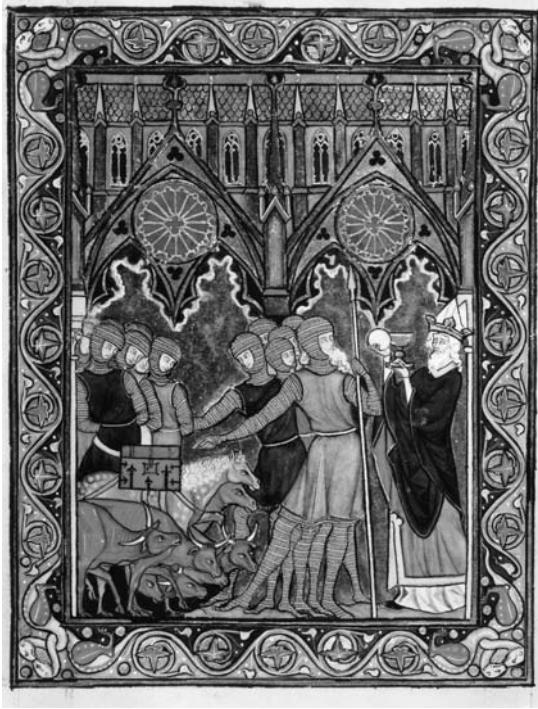


Photo 1.2 *Abraham Presenting Booty and Prisoners to Melchizedek*, in the *Psalter of Saint-Louis*, French, mid-1260s, manuscript illumination, $8\frac{1}{4} \times 5\frac{5}{8}$ in. (21×14.5 cm.). Bibliothèque Nationale, Paris (MS latin 10525, folio 6). Erich Lessing/Art Resource, NY.

From the hand of the French Master Honoré come the illuminations in the *Prayer Book of Philip the Fair*, c. 1296 (Bibliothèque nationale, Paris, ms lat. 1023). The framed scenes include the story of the shepherd boy David, with two scenes on a folio: the *Coronation of David* is shown above and *David and the Giant Goliath* below. Each time he appears, David looks the same and wears the same blue garment to facilitate following the narrative. Depicted in *Virtues and Vices* are Chastity with her unicorn; the fall of Pride; the Sinner repentant; and the Hypocrite. The style is similar to that of the *Psalter of Saint Louis* with the flat patterned background in contrast to the modeled figures, but Master Honoré's figures step over the frames and are more three-dimensional.

Master Honoré was not a monk working in a monastery scriptorium but a layman working in a city atelier. Contrary to common belief, medieval manuscripts were not necessarily the work of monks. Manuscript

production was essentially the domain of monks working in monasteries until approximately 1100. By 1200, however, secular workshops were producing books for the laity. By 1250 bookshops were found in the big universities and in commercial towns. There was trading in second-hand books. By 1300 even most monks bought their books in shops.

In fourteenth-century France, the arts became centralized in Paris, the seat of a powerful monarchy, the location of a university of growing importance, and a principal center for manuscript illumination. The most elegant manuscripts were made in France and, among those, the finest were made in the Paris studio of Jean Pucelle. An example of the extraordinary level of skill achieved is provided by the *Hours of Jeanne d'Evreux*, considered to be Pucelle's masterpiece, dated 1325–1328. This tiny book of hours was made as a gift to Jeanne d'Evreux, queen of France, from her husband, Charles IV, for use as her private prayer book. French books were written with smaller lettering and the size of the books was smaller than those produced anywhere else. The *Hours of Jeanne d'Evreux* measures only $3 \frac{5}{8} \times 2 \frac{3}{8}$ inches (9.2×6.1 cm.), proving that, for a Gothic manuscript for a French queen, less was considered more. In fact, this magnificent and minute work is best appreciated with the aid of a magnifying glass. Medieval manuscripts vary in size from those, as this, that would fit in the palm of a hand, to others such as the so-called giant Bibles produced in Italy, which are so massive as to be difficult to lift. Curiously, the sequence of scenes in the *Hours of Jeanne d'Evreux* is not chronological. For example, the depiction of *Jesus before Pontius Pilate* on folio 34 verso, faces the *Visitation* on folio 35 recto (Photo 1.3). *Jesus Bearing the Cross* on folio 61 verso is seen with the *Annunciation to the Shepherds* on folio 62 recto. The *Crucifixion of Jesus* on folio 68 verso faces the *Adoration of the Magi* on folio 69 recto. In spite of the tiny size of the figures, their poses and gestures are dramatic and emphatic throughout the manuscript. In this elegant courtly style, the lithe little figures are drawn with fine silhouettes. In the *Visitation*, Mary, pregnant with Jesus, meets her cousin Elizabeth, pregnant with John the Baptist. They share this news as they greet each other warmly and Elizabeth points to Mary's abdomen. The inclusion of a rabbit is a reference to fecundity. Below the *Visitation* scene, hybrid creatures cavort, active if not actually dancing, and elsewhere in this manuscript, marginal figures even participate in the main scene. In the *Annunciation to the Shepherds*, an angel displays a scroll as the shepherds receive the news of the birth of Jesus in writing. Understandably, they look amazed. In the border, two angels bring word of the birth to the shepherds as their dog leaps up. An unusual feature in the

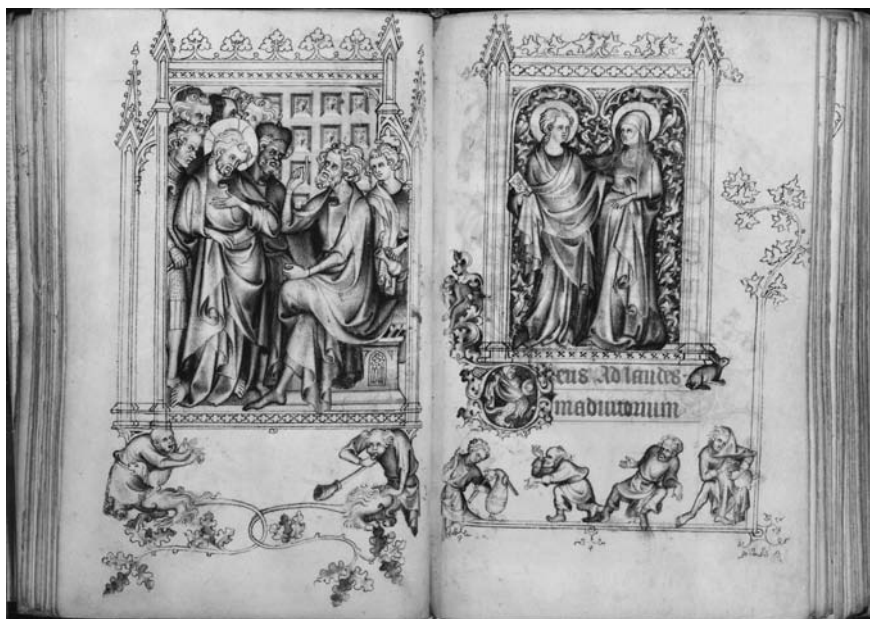


Photo 1.3 Jean Pucelle, *Jesus before Pontius Pilate* and *The Visitation*, in the *Hours of Jeanne d'Evreux* (folios 34v and 35r), French, 1325–1328, manuscript illumination, $3\frac{5}{8} \times 2\frac{3}{8}$ in. (9.2×6.1 cm.). The Metropolitan Museum of Art, The Cloisters Collection, New York, 1954 (54.1.2). Image © The Metropolitan Museum of Art.

Adoration of the Magi is the depiction of the infant Jesus nude and standing. The little angel musicians at the top are standard inclusion in this scene. In the initial below is a related subject, a stableboy and horse. In the *Crucifixion*, Mary is shown swooning, one of the earliest appearances of this motif in France. Because it was already popular in Italy, this may be evidence of the influence of Italian panel painting, especially that of Duccio of Siena, on French manuscript illumination.

These tiny paintings are executed using the *grisaille* technique, the term derived from the French for “gray,” as the painting is done in shades of black and gray, the result being almost monochromatic. Grisaille work became fashionable in Gothic manuscript illumination in the fourteenth century. In some cases, only the figures are painted in grisaille and the rest is embellished with full color. This is as intended by the artist—the grisaille portions are not unfinished, left waiting for their coloration. Use of grisaille in manuscript illumination may derive from its well-known use in Italy, especially in Giotto’s figures of *Virtues and Vices* in the Arena Chapel, Padua, painted only several years before the *Hours of Jeanne d'Evreux*.

The relationship between text and illustration was treated in various ways in medieval manuscripts. The illumination may be framed within the text or integrated into the text, resulting in different degrees of unity between the words and their illustration. Eventually the illuminations occupied full pages and were painted on pages separate from those given over to the scribe, thus entirely separating the text from its illustration. Rare in the *Hours of Jeanne d'Evreux* is the full-page unframed scene—now the entire page is available to the illuminator. Margins are filled with plant forms, insects, animals, playful oddities, and genre scenes typical of Gothic manuscript illumination. The style of the illuminations in the *Hours of Jeanne d'Evreux*, keeping pace with the other arts, no longer has the appearance of stained glass that was noted in the *Psalter of Saint-Louis* (Photo 1.2) over a century earlier.

Also associated with Jean Pucelle is a manuscript of the *Miracles of the Virgin Mary*, dated to c. 1330 (Bibliothèque nationale, Paris, Ms. nouv. acq. fr. 24541), that depicts each of the fifty-eight miracles Mary performed for the faithful. In the *Abduction of the Little Nun* the figures are elongated and elegant, their drapery made to appear three-dimensional. The nun is shown escaping from her convent to marry a young nobleman. Thirty years later, Mary appears in a dream and convinces her to become a nun again and her husband to become a monk. The scene of the *Laborer and his Plow* documents the type of plow used in the earlier fourteenth century. The oxen are now unyoked. Although the laborer was unable to learn all his prayers, Mary saves him.

From the mid-fourteenth century on in France, especially in Paris, manuscript illumination evolved rapidly, as seen in an outstanding manuscript illustrating Guillaume de Machaut's *Le Remède de Fortune*, of 1350–1355 (Bibliothèque nationale, Paris). This long poem is comprised of a series of vignettes from courtly life and descriptions of the lover's anguish. The lover is Guillaume himself, who dares not declare his love to the lady he so adores. In one scene people dance a “carole,” and the lady invites Guillaume to join the dance. He will sing his song to her, after which a banquet will be held. The lyric poet Guillaume de Machaut is considered the model for an entire line of poet musicians. He wrote ballads, other forms of music, and various narrative fictions. His images exalt the perfect knight and singer of love. His music introduced polyphony, which developed after Gregorian chant and is more complex in its harmonies.

Breaking from the style of Jean Pucelle, the illuminations of *Le Remède de Fortune*, which are the work of more than one artist, indicate a new approach to reality. The intentionally charming scenes in this manuscript

include figures moving with graceful ease as they realistically record the most minute details of current costume—including the cut of clothing, variations in sleeve styles, types of headdresses, and even of beards. This courtly elegance combines with a realism that exalts Nature—a turning point in fourteenth-century art signaling that a new style has arrived. Foreshadowing the coming interest in genuine landscape are the realistic herbs, flowers, trees, fountains, and châteaux depicted, although here they are still combined with an abstract background of golden foliate swirls. Naturalism is in its infancy and will develop under the reign of Charles V, 1364–1380.

In the early fifteenth century, manuscript illumination was taken to a new level by the extraordinary Limbourg brothers: Pol (Paul), Herman, and Jean (Jannequin). Although often referred to as Flemish, they were probably German, worked in Paris, and came to be employed exclusively by Duke Jean de Berry, one of the younger brothers of King Charles V of France. Fortunately for the history of art, Jean de Berry was a compulsive art collector and a patron of the arts on a grand scale. Because the display of possessions was a preferred medieval method of establishing and maintaining personal prestige, the Duke of Berry spent much of his great wealth on art. The influence of his affluence is evidenced by a manuscript superbly illuminated by the Limbourg brothers c. 1410–1413 and known as *Les belles heures de Jean, duc de Berry* (The Cloisters Collection, New York). An inventory of the duke's holdings made in 1413 lists the manuscript as *Les belles heures*. This book of hours was intended for use in reciting one's daily prayers. Executed on the finest vellum, the small manuscript measures only 9 3/8 by 6 5/8 inches—although size is relative and the *Les belles heures* is several times the size of the *Hours of Jeanne d'Evreux*, discussed above.

Les belles heures contains 172 miniature paintings of which 94 are full-page. The quality of the compositions, the technical execution, and the colors are of the highest quality. Throughout the manuscript, the delicacy of the Limbourg brothers' painting technique is evident. Among many notable scenes is one from the legend of *Saint Eustache* in which his sons are carried off by a wolf and a lion. On another folio, *Saint Christopher Crosses the Stream* while carrying the infant Jesus on his shoulders. From the life of *Saint Jerome* are scenes in which Jerome removes the thorn from the lion's paw, and one in which the lion leads the monastery's donkey back to the monastic enclave, proving he is innocent of the accusation that he ate this donkey. The depiction of the *Annunciation* demonstrates that, although working on a miniature scale, the Limbourg brothers were

nevertheless able to make Gabriel and Mary appear to exist in a space beyond the picture plane. All the standard iconographic symbols are included, only rendered in miniature: the Madonna lilies held by Gabriel are a sign of Mary's purity; the crossed arms are a sign of respect; the Holy Ghost descends to Mary; and God the Father, on a balcony above, provides blessing. In the border, within curling acanthus leaves, are music-making angels and prophets, with the arms of the Duke of Berry. On the narrower border on the left side are bears and swans, the emblems of the duke, thought to be a reference to his preference for a lady named Ursine utilizing a play on her name—in French *ours* means bear and *cygne* means swan. Therefore, it is worth mentioning that this manuscript includes an illumination from the legend of Saint Ursula that depicts the gruesome grande finale in which she, as well as eleven thousand other virgins, are killed by Huns on the Rhine river. Yet, in accord with the Gothic delight in decorative design, this horrifying story is set within a border of ethereal, immaterial, swirling ivy vines.

An extraordinary illumination shows a young Christian man heroically resisting temptation, in the form, of course, of a young woman. This event is supposed to have occurred during the persecutions of Christians under the Emperor Decius. Hardly subtle, the tantalizing temptress torments him while his hands are bound behind his back. He manages to resist by biting off his tongue and spitting at it at his would-be seducer. Saint Paul, seeing this, flees to the desert in horror. A more convincing landscape appears in the *Annunciation to the Shepherds*, where a trio of angels emerges from a cloud and reads from a book to announce the news of the birth of Jesus to the shepherds.

This manuscript includes the signs and labors of the months, a popular medieval subject found in other manuscripts as well as in paintings, and in stone relief cycles on the facades of Gothic cathedrals, as at Paris and Amiens. *February* is represented by an old man warming himself by the fire. In *April* the trees have new leaves and a young man is fashionably dressed. In *May* he goes hunting, hawk at his wrist, and is equally elegant in his attire. In *June* a different social stratum is depicted as a peasant cuts hay; the change in clothing reflects his social status as well as the warmer weather. In *July* the wheat is cut and tied in bundles. In *August* the wheat is threshed. And in *September* it is time to stomp the grapes to make wine.

The Limbourg brothers' last and greatest work is *Les Très Riches Heures du duc de Berry*, dated 1413–1416 (Musée Condé, Château of Chantilly). Large by comparison to other manuscripts, it measures 11 1/2 by 8 1/4 inches. Justly famous, this manuscript is regarded as the

culmination of the International Style, which was literally international because it merged northern European and Italian traditions. The prime example of the style in Italy is Gentile da Fabriano's elaborate, colorful, detail-filled *Adoration of the Magi* painted in 1423 (Galleria degli Uffizi, Florence).

Les très riches heures includes one folio for each month of the year, the first time each month was given such attention. These miniature paintings record the seasonal cycle of changes in activities, attire, and environment. *January* (Color plate 4), depicts the duke of Berry at the New Year's table, positioned so that the fire screen behind him forms a halo, as the Limbourg brothers subtly and cleverly flattered their patron! Aristocratic life of the early fifteenth century is recorded in these very detailed illuminations. The fashionable physique of the time is almost unnaturally elongated and ethereal. Although most of the people depicted are not individualized, the Limbourg brothers painted an actual portrait of the Duke of Berry (other paintings of him show the same features). The splendid banqueting hall is hung with a tapestry on which a battle, indicative of the times, is depicted. Many details of different types of fancy fabrics, fashions, and foods are documented in detail, the lifestyle enjoyed by the Duke of Berry shown to be elegant and luxurious. The dogs are fed, too, both on the floor and on the table.

In contrast, *February* provides a factual record of early fifteenth-century rural peasant life in winter. One wall of a home has been removed to allow the viewer visual access to the interior. Here people warm themselves by the fire, lifting their garments to do so—a woman averts her gaze from her male companions who wear no undergarments. As one of the earliest known snow scenes and the earliest in Western art, *February* is indicative of a new interest in Nature. All details are carefully observed and recorded by the Limbourg brothers. A sense of deep space is created within which realistically rendered sheep huddle together inside their wattle fence, birds search for food in the snow, trees are leafless, and the sky is a winter grey. Intangibles are painted now as seen in the rising smoke and even the woman's breath, visible in the cold air, as she runs toward the house from the far right, blowing on her hands to warm them. The Limbourg brothers' three-dimensional realistic image of the natural world is very different from that seen earlier in the decorative two-dimensionality that characterized Romanesque manuscript illuminations such as that of the *Carmina Burana* described above.

On the folio for the month of *March* the Limbourg brothers portrayed Jean de Berry's château of Lusignan. Selectivity was required on the part of

the artists because, although there are twelve months, the duke owned at least seventeen residences. The color of the sky is graded, correctly made lighter near the horizon. The March sky is now blue and it is time to plow the fields as the land begins to turn green. This scene documents contemporary farming methods in which the fields are clearly divided and a peasant plows behind two oxen.

April includes the château of Dourdan, another of the duke's castles. The fields are productive, the trees are in bloom, the grass is now fully green, and the sky is bluer than the previous month. Fancy fashions of early fifteenth-century French court life are depicted.

At the château of Riom, in *May*, the court embarks on a hunt, the favored pastime of the nobility when not at war. Such an outing evidently required sumptuous costumes of rich brocades and abundant jewelry—not only people but also horses were treated to elegant attire. The interactions of the participants are flirtatious.

The city of Paris, including the palace and the Sainte-Chapelle, is seen in *June*. The notable accuracy with which the buildings are rendered may be appreciated by comparing this illumination to the actual appearance of the Sainte-Chapelle even today, although the little two-story chapel has been somewhat altered over the centuries. The illumination records that Paris was still a walled city in the early fifteenth century. Outside the city, women and men work together, raking and cutting in the fields.

The folio for *July* includes an accurate depiction of the château of Poitiers which shows the Limbourg brothers' interest in recording and documenting their environment. Yet this interest in carefully observed specifics is combined with the poetic quality of idyllic landscapes in which farmers cultivate crops and a shepherd and shepherdess shear the sheep.

In *August*, at the château of Etampes, court life returns and the nobles, accompanied by dogs, go hawking. The ladies ride sidesaddle, as required by both custom and costume.

The accuracy of the depiction of the château of Saumur in *September* may be assessed by comparing it to the appearance of the actual château today, which remains essentially unaltered. Now it is harvest time and work must be done in the fields.

October includes the Louvre of Charles V, the Limbourg brothers recording a building that also still exists today but, in this instance, in a very different form. Now the famous and enormous museum, the Louvre was far smaller and simpler in the early fifteenth century, prior to the addition of sprawling wings and, more recently, of I. M. Pei's glass and metal pyramidal entrance. October is the month to plow the

furrows in the soil and to sow the seeds. The figures cast shadows—a visual phenomenon that had not been recorded by artists since ancient Roman times! The observation and depiction of details are extraordinary—birds eat the grain as the farmer sows it, showing the scarecrow to be ineffective; footprints are left in the soft soil; people grimace in response to their labor; the tattered clothing and holes in the stockings reflect the farmers' lot in life.

November depicts the acorn crop being knocked from the trees and consumed by pigs. This folio, unlike the others, is believed to have been painted in the 1480s by Jean Colombe.

The château of Vincennes appears in the background of *December*. In this hunting scene, dogs fall on a boar. Winter comes again: the leaves are brown and the earth is barren. Throughout the months, the lives of both the nobility and the peasantry have been documented and contrasted.

In *Les très riches heures*, the Limbourg brothers depicted another example of actual medieval architecture that still exists today in the *Mass of Saint Michael*. In the sky, the archangel Michael battles the devil. Below is the fortified island monastery of Mont Saint-Michel, with its church at the peak of the mountain, carefully observed and factually recorded.

That manuscripts were highly valued in the Middle Ages is demonstrated not only by the high prices paid for them and the social status of their owners, but also by the care with which they were treated. Books were often chained to the shelves during the late Middle Ages and thereafter in certain libraries to prevent theft. An excellent extant example of a chained library is the late medieval Cathedral Library at Hereford.

Like most other artisans of the late Middle Ages, scribes and illuminators were anonymous workers within the medieval guild system who were paid as craftsmen and lived accordingly. Yet in the late Middle Ages the illuminator's sense of individuality gradually began to emerge. In a copy of Giovanni Colonna's *Mare Historiarum* of 1448–1489 (Bibliothèque nationale, Paris, latin 4915, folio 1), an anonymous illuminator depicted himself at work while receiving guests; he is visited by Jean Jouvenel des Ursins, Chancellor of France. Because the illuminator wears the Chancellor's coat-of-arms on his sleeve, it may be assumed that he was employed by him.

There were several significant exceptions to this anonymity. Jean Miélot (d. 1472), a Flemish scribe and translator who was a canon at Lille and secretary to two dukes of Burgundy, Philip the Good and Charles the Bold, was portrayed at least twice. In one depiction from around 1450 (Bibliothèque Royale Albert 1er, Brussels, MSS 9278-80,

folio 10), he is shown copying a manuscript for the library of Duke Philip the Good. This manuscript documents the methods and materials used to make a manuscript. The book to be copied, that is, the exemplar, is above Miélot's desk on a lectern. Miélot sits at his work table/desk, the parchment mounted on an angle as he works with his knife and pen. A weight is used to hold the book open as well as to mark Miélot's place on the folio. His bed is to the left, the fireplace to the right, books are in a strong box and are scattered on the floor. The other representation of Miélot is a miniature by the illuminator Jean de Tavernier that shows Miélot kneeling as he presents his translation of the *Traité sur l'oraison dominicale* to Philip the Good as others look on.

The highly successful Flemish manuscript illuminator Simon Bening of Bruges (1483–1561) painted a realistic self-portrait (Metropolitan Museum of Art, New York, 1975.1.2487). He shows himself at his sloping desk, holding his eyeglasses. But this self-portrait is dated 1558; it is no longer medieval but instead represents an interest in the individual that is characteristic of the Renaissance.

In conclusion, medieval manuscript illumination on parchment may be seen as a major accomplishment on a miniature scale. The following chapter is concerned with painting on wooden panels—although the images were executed on a larger format, the same characteristically medieval fascination with minute details, bright colors, and exquisite craftsmanship is found.



Painting on Wooden Panels: Egg Tempera, the Introduction of Oil

Materials and Methods of Painting on Wooden Panels

An excellent medieval source of information on panel painting is *Schedula diversarum artium* (*Diversarum artium schedula* or *De diversis artibus*), a technical manual in Latin that discusses various arts and was written around 1100 or in the early twelfth century, making it the earliest known book on techniques from the Middle Ages. The author was probably a monk named Theophilus Presbyter or Roger of Helmarshausen (Rugerus). The manual has been translated into English as *On Divers Arts* and contains three books: (1) *The Art of the Painter*, (2) *The Art of the Worker in Glass*, and (3) *The Art of the Metalworker*. Much of what Theophilus describes is still true for today's artists working in these media.

Egg Tempera

The medium routinely used for medieval panel painting is tempera, a paint that may be diluted with water. The term *tempera* refers to the addition of a liquid medium (the binder or vehicle) to pigment in order to create paint, as opposed to fresco that does not require the addition of a medium. The word tempera derives from *temperare*, Italian for “to dissolve” or “to mix” in the sense of to mitigate or to adjust correctly. Only

later, when the painting medium of egg tempera was introduced in the Middle Ages and became the standard medium for panel painting, did the term tempera come to refer specifically to paint that uses egg yolk as the binder. (While egg yolk was the usual binder when painting on wooden panels, egg white was the usual binder when painting manuscript miniatures on parchment.) Egg tempera painting reached its peak during the Middle Ages, to be gradually replaced by the *mixed technique* in the late Middle Ages and Renaissance, and completely superseded by pure *oil painting* by the end of the Renaissance.

Egg tempera was painted routinely on wooden panels. Different types of wood were used: poplar was popular in Italy, while oak was more common in northern Europe. In general, Italian panels are thicker and of softer wood, while northern panels are thinner and of harder woods and, consequently, remain in better states of preservation.

Preparation of the panel must be done with great care. Although the egg tempera technique lends itself to small paintings, a noted exception is Simone Martini's large *Annunciation* of 1333 (Galleria degli Uffizi, Florence) that required joining panels of wood together. The glue used was made of lean cheese. In his recipe for cheese glue, Theophilus advises his reader to proceed as follows: "Cut soft cheese into small pieces and wash it with hot water in a mortar with a pestle, repeatedly pouring water over it until it comes out clear. Thin the cheese by hand and put it into cold water until it becomes hard. Then it should be rubbed into very small pieces on a smooth wooden board with another piece of wood, and put back into the mortar and pounded carefully with the pestle, and water mixed with quicklime [lime in the form of a lump or powder] should be added until it becomes as thick as sediment. When panels have been glued together with this glue, once dry, they stick together so well that they cannot be separated by dampness or by heat." Theophilus's methods are neither quick nor easy, but he assures his reader of lasting results. This cheese glue dries hard as stone and, in fact, medieval joints rarely separate.

Paintings executed on wooden panels frequently varied from the simple single rectangular format. Two vertical panels might be hinged together to form a *diptych*. Three panels hinged together form a *triptych*. A work that has more than three panels is a *polyptych*, a many-paneled work. The same terms apply to a painting or a relief. Among the advantages offered by hinging panels together is that the work may be folded to protect the interior; when the wings are opened on an angle, the work will stand on its own without additional support; and different images may be displayed at different times for ritualistic or other purposes.

After the panel is shaped, it must be allowed to age to minimize later warping. Theophilus says that a common way to prepare the aged panel is to glue strips of parchment to it, and then apply layers of glue and gesso. Alternatively, the parchment strips may be omitted and a coat of rabbit skin glue applied to seal the panel and make it nonabsorbent. Rabbit skin glue is made from just what the name says, or a glue could be made from calfskin. The highest quality of medieval glue was made from parchment clippings. Such animal-based glues include two types of proteins: *chondrin* and *glutin*, the former making the glue adhesive and the latter causing it to jell.

The next step in preparing the wood panel is to apply *gesso*, a thick white paint made of any one of several white powders such as whiting, chalk, or plaster of paris. This powder is mixed with a glue; the type, fluidity, and amount of glue will determine how hard the gesso will be when dry. The term *gesso* derives from gypsum (hydrous calcium sulfate), from which plaster of paris is created by calcining (roasting) it until much of the water is driven off; this fine powder may be mixed with water to a creamy consistency that sets to a solid. Early gesso was made from a mixture of plaster of paris and parchment glue. During the Middle Ages gesso was made with slaked plaster of paris (which is inert calcium sulfate made by soaking plaster of paris in a lot of water so that it is unable to set). By the close of the fifteenth century, slaked plaster of paris was replaced by whiting or chalk.

Several coats of gesso are applied by brush to the wooden panel. The direction of the brushstrokes is alternated—top and bottom, as opposed to left and right—on each successive layer of gesso. After each layer dries, it is sanded before the next is applied. The goal is to build up a smooth, even, white surface on which to work. *Gesso grosso*, which means “coarse gesso” in Italian, is used as an undercoat and is made of plaster of paris that is purified and sifted like flour. Alternatively, additional coats of *gesso sottile*, which means “fine gesso,” may be applied for finer work. Although gesso grosso and gesso sottile are made of the same material, the latter is described by an early source as “. . . purified for a whole month by being soaked in a bucket.” The reader is instructed to “Stir up the water every day, so that it will come out as soft as silk.”

The author of this advice is Cennino d’Andrea Cennini (c. 1370–c. 1440) who provided an especially useful source of information on painting technique in his treatise, *Il libro dell’arte*, known in English as *The Craftsman’s Handbook*. The date it was written is debated with possibilities being the late fourteenth century, perhaps around 1390, or the early

fifteenth century, perhaps 1437. Cennini, a late Gothic Florentine craftsman, describes techniques used in these years and earlier in Italy. It is known that for twelve years Cennini was a student of the painter Agnolo Gaddi, who was the son of Taddeo Gaddi, a student of Giotto di Bondone. Thus Cennini had firsthand knowledge of the techniques and materials he described. Cennini offers practical suggestions for artists in general. In Chapter 3, he advises those who wish to enter the painter's profession to "begin by decking yourselves with this attire: Enthusiasm, Reverence, Obedience, and Constancy. And begin to submit yourself to the direction of a master of instruction as early as you can; and do not leave the master until you have to."

In Chapter 27, Cennini says, "You should endeavor to copy and draw after as few masters as possible. . . . Take pains and pleasure in constantly copying the best things you can find done by the hand of the great masters. . . . Take care to select the best one . . . who has the greatest reputation. . . . If you follow the course of one man through constant practice, your intelligence would have to be crude indeed for you not to get some nourishment from it." In Chapter 28, he cautions the reader, "Do not fail to draw something every day."

Chapter 29 describes the manner in which an artist should live: "Your life should always be arranged just as if you were studying theology or philosophy . . . eating and drinking moderately." He tells aspiring artists to spare their "hands from such strains as heaving stones" and continues to explain, "There is another cause which, if you indulge it, can make your hand so unsteady that it will waver more, and flutter far more, than leaves do in the wind, and this is indulging too much in the company of women."

Cennini provides information on how to paint in tempera in Chapter 72 of his *Il libro dell'arte*, taking the reader through the steps to make a panel painting. He notes that a great amount of time is required to prepare all the necessary materials and explains how to make everything needed. Included are some interesting facts: for example, a drawing done in lead can be erased with a piece of bread. A drawing in charcoal can be erased with chicken or goose feathers. Cennini also says that a town hen's egg yolk is better to use when painting the face of a young person, because it is whiter than the yolk made by a hen from the country or a farm, which is good to use for the skin of old or swarthy people because of its redness. In fact, egg yolks range only very slightly in color and the color of egg yolk, which is due to carotin, disappears in approximately two weeks and does not affect the final colors.

In Chapter 104 he says, “Doing a panel is really a gentleman’s job . . . with velvets on your back.”

Theophilus, writing around 1100 or in the early twelfth century, and Cennini, writing in the late fourteenth or early fifteenth century, both say you should copy the great masters. But Cennini, three centuries later, also says that a painter should learn by copying nature. Cennini was the first to write about human anatomical proportions in a treatise on art. Although his knowledge was hardly scientific in a modern sense, he does include information on how to paint a dead man as well as wounds. It would be interesting to compare Cennini’s writing to his own painting but, unfortunately, no extant painting can definitely be attributed to him.

Close in time to Cennini’s *Il libro dell’arte* was a book by another Italian artist, Leon Battista Alberti (1404–1472), *De pictura*, or *On Painting*, written 1435–1436. However, while Cennini looked back in time to summarize the knowledge of the Middle Ages, Alberti looked forward, his writing leading the way for the Renaissance.

Later, Giorgio Vasari (1511–1574) wrote his famous chronicle of the lives of Italian artists from Cimabue to his own contemporaries, *Le vite de’ più eccellenti pittori, scultori, e architettori italiani*, translated as the *Lives of the Most Eminent Architects, Sculptors, and Painters*. The initial 1550 publication of “Vasari’s Lives,” as the work is generally known, included a lengthy introduction dealing with technique, materials, and methods, treating architecture, sculpture, and painting each in a separate section. This introduction was augmented in the revised and enlarged 1568 edition.

Although gesso usually is used to make the painting surface smooth and even, Cennini describes a special use of gesso that is demonstrated in a painting by Jacopo di Cione and his workshop of the *Crucifixion*, of 1385 (National Gallery, London). A type of raised gesso decoration, known as *pastiglia*, is seen on the *predella* (a small panel attached below the main panel of an altarpiece). Liquid gesso is dribbled onto a flat gesso ground and is applied repeatedly until a little ridge forms. Alternatively, rather thick gesso is applied and then modeled or tooled. When the surface is painted and/or gilded, the result duplicates the appearance of wood carved in relief. Pastiglia was also used on small caskets, chests, and other wooden surfaces.

Next, the artist executes a highly detailed drawing in which all aspects of the composition are finalized. The outlines of this drawing are transferred to the wooden panel, but the artist would repeatedly refer to the detailed drawing as the painting progresses. When the artist is

actually painting, he is free to focus solely on mixing the colors and application of the paint.

Medieval panel paintings often have gold backgrounds in place of blue skies, and religious figures are likely to have gold halos—this rich embellishment is created by the application of thin layers of gold leaf. In preparation for gilding, an adhesive known as *gold size* is applied to the areas intended to receive the gold leaf. For panel paintings, the substance used was *red gilder's clay* (a *red bole* also called *red bolus* or *red earth*) that is mixed with *glair* (described in Chapter 1 as a binder used in manuscript illumination, glair is egg white that has been beaten and mixed with a small amount of water the day before—the longer it stands, the stickier it becomes, although it will spoil if left too long). Five to ten coats of this mixture are applied.

Gold is the most malleable of all metals; metals that may be hammered or rolled without cracking are described as malleable. Malleability results from structural plasticity (the molecules stick together when the metal is struck). Gold leaf for panels is made by placing a piece of gold between two pieces of leather or cloth, and then pounding it until it is paper thin, down to 0.1 micron (1/100,000 cm.). When applying a layer of gold leaf, Theophilus warns the artist, “At this moment you should guard against drafts and hold your breath because, if you breathe, you will lose the leaf and find it again only with difficulty.” Using a piece of parchment or card, the gold leaf is lifted and placed on the panel; the *gilder's tip*, which is a brush with a flat tip used for this purpose, is post-medieval. The next step is to burnish the gold leaf—that is, rub it to make it adhere and polish it to make it shine, by gently rubbing with a *burnisher*. Use of “a tooth or a stone” is suggested for this purpose. Application of several layers of gold leaf may be required for good coverage. Gilding dates back at least to the ancient Egyptians; it was highly developed in the Middle Ages and was often used in panel paintings as well as in manuscript illumination (see Chapter 1). The solid gold background (*fondo d'oro*) so popular in Sienese painting is seen in Simone Martini's *Annunciation*, dated 1333 (Galleria degli Uffizi, Florence).

After the gold is applied, the haloes and borders of medieval panel paintings may be *tooled*. To decorate a surface by indenting it with a design is to *goffer* it (also spelled *gauffer*, the finished work called *gauffrage*). Using a wooden tool, also called a goffer (or gauffer), with a design cut into the end, this design is repeatedly pressed into the gold leaf. The gesso layers below give slightly under pressure. The tooling is done at this point in the process because it requires application of pressure to the

panel, which may split as a result. Therefore, the tooling is done before the actual painting so that less labor is lost if the panel splits. The purpose of the tooling process is to facet the surface, so that light reflects on different angles, adding to the glitter of the gold. Unfortunately, over the years the tiny tooled crevices become repositories for dirt and grime that cannot be removed effectively from the countless recesses. Furthermore, the gold leaf tends to flake away over the centuries, allowing the red gilder's clay to be seen here.

Details in gold may be made with *oil mordant gilding*. Oil is painted carefully on the panel where gold is desired; gold leaf is then applied and sticks only to the oil. Finally, the excess gold is brushed off.

Other methods for applying gold to panel paintings were practiced. For small details, gold powder may be used in the same manner as any other paint pigment. Gold powder is more difficult to create than gold leaf because, due to the soft and malleable nature of gold, it will flatten rather than powder when force is applied to it. The medieval method was to place gold leaf, honey, and water in a mortar and grind it, after which the honey was rinsed away with hot water until only the gold powder settled out.

Now the artist begins to paint in egg tempera in which the binder used is an emulsion made of water and egg. Hen eggs contain albumen which is an emulsifier, and lecithin, a fat-like material, a lipoid that also serves to emulsify and thus stabilize the paint. The yolk and white of the egg are separated. Only the yolk was normally used because the white contains additional albumen and the yolk already has adequate albumen to create a balanced emulsion; additional albumen would further speed the already quick-drying property of egg tempera. Although egg yolk was used most frequently, occasionally the whole egg, and less frequently just the white was used.

A fourteenth-century manuscript from a *Tacuinum sanitas* (Österreichische Nationalbibliothek, Vienna, Codex Vindobonensis, Series Nova, 2644) documents the appearance of an apothecary's shop, of importance here because during the Middle Ages a painter went to an apothecary to purchase pigments—the medieval apothecary sold much more than medicines. Using a muller, the artist ground the pigments in water to form a paste. The colored paste and egg are mixed in equal amounts, usually just before use although the paint will keep for several days if placed in a cool dark environment.

The brushes used during the Middle Ages were made of animal hair. Cennini includes instructions on how to make miniver brushes, and later

he tells the reader how to keep miniver tails from getting eaten by moths. Squirrel hair was used for most medieval brushes. The hair was mounted in the tapered end of a quill, and a long wooden handle could be attached to the other end. Not until the early nineteenth century were metal ferrules used to hold the hairs and permanent handles attached. Egg tempera paint is applied in small brush strokes placed side by side rather than in overlapping strokes or atop previous brush strokes. It was customary to underpaint the skin of the more important figures with green, on the basis that this would enhance the reddish flesh tone painted over it—somewhat the idea of complementary colors (colors opposite each other on the color wheel) enhancing each other. However, over the centuries, as the upper layers of paint have been lost through abrasion or cleaning, the skin comes to have a greenish pallor. After the painting is finished and has dried thoroughly, a final protective glaze may be applied.

An indication of the work environment of the medieval painter is found in a French manuscript illumination, dated 1403, of *Thamyris Seated before an Easel* (on book cover), painting an icon of Mary and the infant Jesus (Bibliothèque nationale, Paris, MS fr. 12420, folio 86 recto). An assistant grinds colors for her in a mortar. In the foreground are her brushes and her colors kept in shells. This illustrates the description given by the Italian author Giovanni Boccaccio (1313–1375) in his *De claris mulieribus*, originally written 1361–1362 and later revised and translated as *Concerning Famous Women*.

Every painting medium has its pros and cons. In the case of egg tempera, the advantages include the clear, crisp images produced that were desirable for paintings intended to be easily visible at a distance, such as altarpieces. The colors are bright, even brilliant, with a rich luminosity. Although temperas may be diluted with water and are water-soluble while wet, once dried, the painted surface is extremely tough and insoluble; thus it may be over-painted with additional layers of tempera or with oil-based paint. The medium has long-lasting durability, as demonstrated by the excellent condition of many medieval paintings. Egg tempera colors change very little over the centuries. In contrast, oil paint tends to yellow, darken, or become transparent with time.

The disadvantages are that the paint dries so quickly that it is difficult for the artist to blend colors. Brush strokes must be small. Little illusion of texture may be achieved because the surface dries uniformly *matte* (also spelled *mat* and *matt*), without luster, due to a slight roughness of the paint surface that causes reflected light to be diffused,

consequently eliminating the possibility of creating the sparkling surfaces found in oil painting. The surface appears as flat as it actually is. The albumen of the egg contains sulfur that tends to darken certain pigments, making them unsuitable for use in egg tempera and limiting the range of colors. As a result of the somewhat transparent nature of egg tempera, correcting mistakes is problematic. Due to its inflexibility, it cannot be used on canvas—unlike oil—and must be applied to a rigid surface. The size of tempera paintings tends to be restricted by the use of wooden panels as well as by the small brush strokes. The range of effects achievable with egg tempera is more restricted than when working with oil paint.

It should be noted that painting on wooden panels long predates the Middle Ages. Most notable are the ancient Egyptian funerary paintings, predominantly from the Fayum region, executed on wooden panels in the medium of *encaustic*. The binder used is beeswax with which the colored pigments are mixed. While the artist works, the wax must be kept hot to remain fluid. When the work is completed and allowed to cool, it may be polished with a soft cloth to a subtle sheen; the effect is rich and the colors dense. Encaustic is extremely durable, as evidenced by the Egyptian Fayum mummy portraits that were placed over the face of the deceased c. 100–300 AD; the wooden supports may have decayed, but the paint has not.

Masterpieces of Paintings on Wooden Panels

Among the earliest extant examples of egg tempera on a wooden panel is a painting by Bonaventura Berlinghieri of *Saint Francis and Scenes from his Life*, 1235 (Color plate 5). The format of a large figure in the center, surrounded by scenes from his or her life, is characteristic of early panel paintings. As Francis of Assisi died in 1226, and Berlinghieri was active 1228–1274, this is not a life portrait but instead an idealized image of Francis, elongated and two-dimensional. The story of Francis's life was made to parallel that of Jesus, including Francis receiving the stigmata (wounds) of Jesus, as shown in the upper left scene. Francis's devotion to nature is shown as he preaches to the birds in the scene below. The artist's goal is not representational realism but clarity of the religious narrative. The gold leaf background adds to the richness of the effect and also serves a practical purpose because the reflective polished gold made the painting easier to see under flickering candlelight in a dark medieval church.



Photo 2.1 Duccio di Buoninsegna (c. 1260–1319), *Madonna and Child Enthroned*, main panel of the *Maestà* altarpiece, Italian, egg tempera and gold leaf on wooden panel, 1308–1311, 84 × 162 1/4 in. (213.4 × 412.1 cm.). Museo dell’Opera Metropolitana, Siena. Scala/Art Resource, NY.

A masterpiece executed in the egg tempera technique is Duccio of Siena’s most important work, the *Maestà* altarpiece (Photo 2.1), painted 1308–1311. *Maestà* means the majesty of the Madonna and refers to depictions of Mary enthroned with the infant Jesus, surrounded by saints and angels, the subject depicted on the front of this panel. On the back are scenes from the life of Jesus and his mother. Today, the arrangement of the smaller scenes is no longer as Duccio intended. Below this main panel were predella panels but they, too, have been detached and are now in various locations.

As noted in the Introduction, most paintings were made on commission during the Middle Ages and contracts drawn up for major commissions. One of the few to survive is that for Duccio’s *Maestà*, which was made for Siena Cathedral. The contract, dated October 9, 1308, says, among many other things, that Duccio is, in English translation, “not to accept or receive any other work to be carried out until the said panel shall have been made and completed.” The contract further states that “. . . his salary for the said works and labor, sixteen soldi of Siennese money for every day that the said Duccio shall work with his own hands on the said panel, except that if he should lose any part of the day there should be a deduction from the said salary, . . .” The contract also stipulates that the clerk of the works was to supply Duccio with all necessary materials, “so that the said Duccio shall be bound to put nothing into it except his person and his work, . . .”

The many panels of the *Maestà* tell the story of the lives of Mary and Jesus. The scenes are not realistic, nor are they intended to be. Thus, the sky is not blue but gold, and many details are of gold. The throne is not drawn in scientific perspective and, consequently, barely suggests depth. Duccio's style comes from the Byzantine and represents the culmination of the old Byzantine style, rather than the start of a new style. And for this style, egg tempera was ideal. Duccio's greatest concerns were narration and richness of effect; therefore, it was acceptable to make the sky golden, the perspective inaccurate, the figures elongated and weightless, and the relative scale of people to buildings unrealistic. Realism was not required for didactic decoration. In fact, such digressions from visual accuracy may even add to the desired effect by emphasizing certain figures or ideas. Nothing is fuzzy, subtly suggested, or implied, in part due to the egg tempera medium. Duccio is known for his fine draftsmanship, virtuoso use of sharp flowing line, and emphasis on silhouettes. Egg tempera is the ideal medium to create such colorful, expressive illustrations to a story.

The often multi-paneled format of tempera paintings made possible ingenious ways of handling pictorial space. The earliest firmly dated work by the Sienese artist Pietro Lorenzetti is his polyptych in the Pieve di Santa Maria, in Arezzo, painted 1320, commissioned by Bishop Guido Tarlati. In the center, above Mary and Jesus, is a depiction of the *Annunciation* in which the actual three-dimensional framework is treated as the architectural setting of the scene.

Pietro Lorenzetti took this idea further in his portrayal of the *Birth of Mary*, signed and dated 1342, from Siena Cathedral (Museo dell'Opera del Duomo, Siena). In a clever experiment with pictorial space, the frame of this large painting comprised of three panels is used as part of the architecture of the painted scenes. The center and right panels show one room in which Anna reclines in bed and is attended by midwives after giving birth to Mary who now is being bathed; the left panel shows another room, smaller in size, in which Anna's husband Joachim is told of Mary's birth. The simple whitish frame between the panels appears to be stone piers that are part of the architecture of the building in which these events take place. These piers establish the foreground plane behind which all action takes place. The perspective of the two rooms is not scientifically or even systematically drawn; instead, the perspective may be described as approximate or intuitive. The oblique lines of recession, if extended back into space, would not converge to a single vanishing point on the horizon line; instead, several vanishing points are used. Nevertheless, this is a major accomplishment in the development of pictorial space, one that is

facilitated, perhaps was even suggested to the artist, by the three-panel format frequently used in medieval egg tempera altarpieces. Pietro Lorenzetti's *Birth of Mary* exceeds all known earlier paintings in successfully suggesting an illusionistic space beyond the picture plane. The picture is treated like a window through which the viewer looks into a deep space on the opposite side. The geometric patterns of the tiled floor and the plaid blanket are devices to enhance the illusion of spatial recession. Within this space the surfaces are rich and the figures substantial and human, for Pietro Lorenzetti combines the linear, decorative style of his fellow Siennese artists Duccio and Simone Martini with the volumetric proportions and deep emotions of the Florentine artist Giotto. Progressive, innovative Italy led the way to more illusionistic treatment of pictorial space and the realistic depiction of the human figure as the foundations for the Renaissance gradually developed.

Having examined several Italian egg tempera paintings on wooden panel, the differences in the use of these materials in northern Europe deserve consideration. As mentioned, northern European panels tend to be thinner and have thinner coats of gesso than those made in the same years in the South, which for art historians, usually means Italy. In general, northern panels have lasted better than their southern counterparts, but additional factors are likely to be involved, such as climate (especially humidity). On an individual basis, handling, storage, and conservation as well as movement due to change in ownership, often linked to changes in political power, may have still greater impact on a panel painting's condition.

Master Bertram of Minden (active 1367–1415), working in Hamburg c. 1380–1390, painted the *Presentation of the Infant Jesus in the Temple*, one of a series of scenes depicting the *Lives of Mary and Jesus* on a *retable*, which is an ornamental panel behind the altar (Musée des Arts Decoratifs, Paris, PE 138). Although this postdates Pietro Lorenzetti's painting by several decades, Master Bertram still uses the tooled gold background; the space is limited and barely adequate for the figures; and inverted perspective is used in the drawing of the altar, for the lines of recession diverge rather than converge as they recede into depth, as seen in the early fourteenth century in Duccio's work.

Oil Painting

Egg tempera, the traditional medieval medium for painting on wooden panels, was gradually replaced by oil paint. Between egg tempera and oil paint, however, there was a transitional period during which

the *mixed technique* was used, initially in Flanders. Important to the development of oils was the Flemish painter Melchoir Broederlam (active c. 1378–1409), who worked for the dukes of Burgundy in Dijon, and began to use oil glazes on his egg tempera paintings. His panel paintings of the *Annunciation and the Visitation* and the *Presentation in the Temple and Flight into Egypt* were executed 1394–1399 (Musée des Beaux-Arts, Dijon). In these complex scenes, the story reads left to right, each half containing two separate events, one indoors, one outdoors. On the left, the angel Gabriel tells Mary, seen within a miniature porch-like building, that she will give birth to God's son Jesus. Next, Mary, now pregnant with Jesus, meets her cousin Elizabeth, pregnant with John the Baptist; Mary and Elizabeth exchange their happy news. On the right panel, the infant Jesus is presented in the temple, in a seemingly hexagonal structure or open loggia supported by a slender column. Finally, old Joseph takes his family into Egypt to avoid Herod's massacre of the innocent children, to eliminate Jesus as a threat to his power. Mary is shown riding sidesaddle on the little donkey who makes his way along the craggy terrain. The scenes are filled with realistic details of the drapery, flowers, and donkey. Broederlam's intent was to paint realistically, to record the most microscopic details, but he was hampered by his painting medium and by tradition that required the use of a gold background and the filling of every inch of surface with small forms.

The developed mixed technique is seen in the triptych known as the *Campin Altarpiece* or the *Merode Altarpiece* (as it was previously owned by the Merode family), painted c. 1425–1428 by a Flemish artist known as the Master of Flémalle who was perhaps Robert Campin (Photo 2.2). The artist used egg tempera for his underpainting and oil paint for his overpainting; a layer of pigment mixed with egg yolk is followed by a layer of pigment mixed with oil, utilizing the advantages of each. Because the former is water-based and the latter is oil-based, the layers will not dissolve each other. The principle is described as “fat over lean,” meaning that oil paint may be applied over another type of paint that has less oil and, consequently, less flexibility. If the layers were reversed, the paint film would eventually be inclined to crack because the oilier layer is the more flexible and will expand and contract, while the leaner layer is less flexible or even inflexible.

The mixed technique offers many advantages. The fast-drying quality of egg tempera is well-suited for use as an underpainting, enabling the artist to continue work almost immediately, rather than having to wait an extended period of time as would be necessary for an oil underpainting



Photo 2.2 Robert Campin (c. 1373–1444), *Annunciation*, known as the *Campin Altarpiece* (*Mérode Altarpiece*), Flemish, c. 1426, triptych, egg tempera and oil on wooden panels, center $25 \frac{3}{16} \times 24 \frac{7}{8}$ in. (64.1×63.2 cm.), each wing $25 \frac{3}{8} \times 10 \frac{7}{8}$ in. (64.5×27.6 cm.). The Metropolitan Museum of Art, The Cloisters Collection, New York, 1956 (56.70a-c). Image © The Metropolitan Museum of Art.

to dry. Conversely, the slow-drying property of oil is ideal for overpainting. When using oil, the color range is increased because the problem of the incompatibility of the sulfur in the egg yolk with certain pigments is eliminated. Because oil dries slowly, the artist is allowed time to carefully blend one color into another; oil colors fuse easily and are readily manipulated. In an era when artists mixed their own colors, rather than buying them ready-prepared in tubes as is done today, an artist could easily vary the viscosity of the oil paint, from a thin transparent *glaze*, made of a little pigment and a lot of oil, as was begun during the late Middle Ages in northern European painting (e.g., the Master of Flémalle) and reached a peak in the Baroque era (e.g., Rembrandt), to a thick *impasto*, made of a lot of pigment and a little oil, which appears later in the history of oil paint, especially in the work of certain Post-Impressionists (e.g., Vincent van Gogh). Textures impossible to achieve with the flat, matte egg tempera became possible with the addition of oil glazes—such as hard gleaming metal, wood grain, soft flesh, fluffy hair, subtle gradations of shadows across the walls, or the smoke from the just extinguished candle—intangibles impossible in egg tempera alone. New illusions of atmosphere and depth became possible. The sharp outlines imposed by the egg tempera technique were now an option, rather than an obligation. The opaque surface created when painting with egg tempera reflects light

directly back, whereas a glazed surface permits light to penetrate so that it is reflected back from the opaque underpainting through the glaze, creating the appearance of a luminous mixture of the two.

The oil most commonly used to mix oil paint by artists in the later Middle Ages was linseed oil, made by pressing the seeds of the flax plant (genus *Linum*). A vegetable oil other than linseed could be used, such as poppy or walnut, but it must be an oil that dries. Poppy oil dries very slowly. Walnut oil was used during the Middle Ages but was never as popular as linseed; it may go rancid before it is dry, which is characteristic of nut oils. The oil and pigment are mixed until the particles of pigment are evenly dispersed and the paint has the consistency of a buttery paste. Other ingredients also may be added.

Although Giorgio Vasari wrote that Jan van Eyck (1385–1441), the celebrated early fifteenth-century Flemish painter, “invented” oil painting, in fact, oils and resins had already long been used for painting that was functional rather than aesthetic. Jan van Eyck popularized a technique that was already coming into use. The gradual introduction of the new oil technique coincides with the transition from the Middle Ages to the Renaissance and the accompanying fundamental change in attitude to art, religion, science, and life.

Jan van Eyck, like other fifteenth-century Flemish painters, used egg tempera for his underpainting, over which he worked in oil and varnish. The huge *Ghent Altarpiece* (Color plate 6) by Jan van Eyck and his mysterious brother Hubert, finished in 1432, demonstrates some of the many advantages of the mixed technique. Oil paint is extremely flexible—figuratively and literally. It does not limit or restrict the artist. In contrast to the linear quality imposed on paintings executed in egg tempera, the introduction of oil offers a slow-drying vehicle that facilitates blending of colors and, in general, ease of handling of the paint. Subtleties of tonal gradations and illusions of textures may be achieved with oil that were not possible with egg tempera. When painting with oil, the artist is able to stop and start at any time, which is not necessarily true of other media, for example, fresco buono, discussed in Chapter 3. Unlike water-based media that dry lighter, to a higher or more pastel value, oil colors do not change when they dry. Therefore, the artist can see the final chromatic relationships while working. The artist's problem of trying to match the colors used the day before, common to water-based media, is eliminated. Any color is possible. Oil colors are saturated, rich, dense, intense, and varied. Fifteenth-century Flemish painting has a wider range of colors and of values from darks to lights than ever before seen in

Flanders, Italy, or anywhere. Oil has a natural gloss, brilliance, and luminosity—oil glistens due to the reflection of light through layers of paint, as seen here on the jewels on the crown and brooch of the central figure on the upper panel (whether this represents Jesus Christ or God the Father is debated). When working with oil, the artist may paint over any unsatisfactory parts. Oil holds up quite well over long periods of time and paintings produced using this “mixed technique” are extremely durable, the paint insoluble in water, and basically hard as stone.

The wide range of effects possible with oil paint were fully exploited only after the Middle Ages. This may be demonstrated by portraits by famous artists. Jan van Eyck is believed to have recorded his own features in a portrait of a *Man in a Red Turban*, painted in 1433 (National Gallery, London). Although using the mixed technique, he was still working with the tiny, tight, details required by the fast-drying property of egg tempera. And he was still painting on a wooden panel as required by the egg tempera which dries as a solid and inflexible film. As oil gained in popularity during the fifteenth century, egg tempera passed out of general use in sixteenth-century Europe, and was replaced by a pure oil technique.

Oil’s potentials are demonstrated in the self portraits of the Dutch Baroque genius Rembrandt van Rijn, who recorded his facial features throughout his life, for example, his *Self Portrait* of 1660 (Metropolitan Museum of Art, New York), and of Vincent van Gogh, also Dutch by birth, although his work places him with the French Post-Impressionists, for example, his *Self Portrait with a Straw Hat* of 1887 (Detroit Institute of the Arts, Detroit). Among the advantages of oil is the possibility of varying the viscosity from Rembrandt’s thin glazes, made by mixing a lot of oil with a little pigment, to Vincent van Gogh’s thick impasto, made by mixing a lot of pigment with a little oil. Rembrandt, by building up layers of glazes that allow reflections through the transparent and translucent layers, and by varying thickness of his paint and size of his brushstrokes, created rich luminous light and lush textural effects. Van Gogh, unconcerned with illusions of material textures, used impasto, applied in a series of small staccato strokes, to convey his own emotional anguish.

Because oil paint is physically flexible, the artist is not required to paint on a solid wooden support but may also utilize canvas, a linen fabric made from the fibrous flax plant that is also the source of the linseed oil. Canvas, heavy and strong, is woven tightly with the warp and weft thread of equal size. Canvas offers various advantages. It is far less expensive than making a wooden panel. And it is far less time-consuming because, although a wooden panel must be allowed to age before painting, this is

not required for a canvas. A large canvas may be stretched with little more difficulty than a small one, whereas preparation of a large panel required separate boards to be glued together. Canvases remain in better condition in wet climates than do wooden panels that expand and contract with changes on relative humidity. Insects are less attracted to canvas than to wood.

Canvas was first used in early sixteenth-century Italy. The fabric is stretched on a sturdy wooden frame. It is then prepared for painting much like a wooden panel. The painting surface of the canvas is coated with an animal glue to make the canvas impervious to the oil which will otherwise eventually rot the canvas. Additionally, this glue serves as a sealant that stiffens the canvas. Next, layers of a white ground are applied; these may be either (1) gesso, described above, or (2) white lead with oil, which either is applied with a trowel or thinned with turpentine and brushed on. This is followed by the application of an underlayer of paint to the canvas; in accord with the customary working methods of the times, artists such as Rembrandt and Rubens painted the entire canvas a brownish color and then worked up to the lights and down to the darks.

Yet oil paint is not without its defects. Problems are likely to become apparent only many years later when oil's tendency to increasing transparency may reveal evidence that the artist revised a figure's pose or proportions, occasionally resulting in a figure that appears to have an odd number of extremities, or even an even number of heads, as the changes gradually reappear. These are known as *pentimenti* (singular, *pentimento*), from the Italian for "repentance." Similarly, the underpainting may begin to show through as the upper layers become transparent, the brown underpainting becoming more visible than intended, and the entire effect darkened. In the later nineteenth century, Impressionists and Post-Impressionists such as Monet and van Gogh painted directly on the white gesso of their canvases, thereby eliminating this problem. But color shift may occur for other reasons: oil also tends to darken and yellow with age. Further, it was customary in earlier centuries to complete an oil painting with a protective layer of varnish, but this layer was also likely to gradually darken and yellow. In general, oil is not as permanent as egg tempera. And, for the impatient artist, or the artist with an impatient patron and a deadline, the slow-drying property may become a drawback.

Medieval artists mixed their own oil paint, using a muller on a slab of stone or glass. Not until the late eighteenth and nineteenth centuries did oil paints become available commercially in metal tins and collapsible

tubes. In the nineteenth century, new chemically produced pigments were developed and a variety of new colors were introduced.

Current understanding of medieval painting techniques has been enhanced by modern technology. This includes scientific laboratory analysis of the chemical composition of pigments and other materials used in panel painting. A nondestructive research technique is *X-radiography* in which the emission of X-rays is used to create an image. Radiation penetrates different substances to varying degrees depending on the substance's atomic weight—those having low atomic weight, such as lead white pigment, permit X-rays to pass through easily and consequently look black on an X-ray, whereas a substance of a high atomic weight, such as carbon-based black, blocks the X-rays and appear white on an X-ray. X-radiography is a useful technique to examine the materials and structure of a painting by revealing what is otherwise hidden—from the panel or canvas support through the layers of paint, as well as old damage and restoration.

Somewhat different information is provided by *infrared reflectography*, a research technique that uses the longer wavelengths of infrared radiation to study what is below the surface of a painting, revealing the layers of paint down to the underdrawing. Light reflected from the surface of the painting is recorded by an infrared camera as a black and white digitized image—an *infrared reflectogram*.

In conclusion, medieval panel paintings, although created more than half a millennium ago, continue to impress, if not intrigue, with their narratives—vividly colored scenes with animated actors who ably engage and inform both the literate and illiterate. In the next chapter, the same repertoire of Christian stories is seen depicted on the grander scale of mural painting.



Painting on Walls and Ceilings: Fresco Secco and Fresco Buono

Materials and Methods of Painting on Walls and Ceilings

Mural painting refers to large-scale images executed on walls or ceilings, rather than on movable supports such as a wooden panels or canvases. Each mural is designed to be seen in a specific and permanent architectural location. The scale of the forms tends to be fairly large as murals are usually intended to be viewed from a greater distance than a painting on panel or canvas. Mural painting thrived in Romanesque and Gothic Italy where the hot sunny climate encouraged architecture with small windows and broad wall surfaces. In contrast, northern Europe's colder cloudier climate encouraged buildings with large windows and, consequently, diminished expanses of wall surfaces. The decorative and often didactic functions performed by murals in Italy were served largely by stained glass windows in northern Europe.

A very small percentage of medieval murals remain. Almost none survives that predates the Romanesque era and only 1 or 2 percent of Romanesque murals are believed to be extant. These are likely to be provincial or secondary paintings because the major works were in urban buildings that were more likely to be redecorated. However, significant cycles of Gothic murals remain, especially in Italy.

Almost all surviving murals are in churches and are intended to illustrate religious teachings. Pope Gregory (c. 540–604) wrote that pictures of the bible stories were to enable the illiterate—and that meant most people, including some members of the clergy—to “read” the bible through the pictures painted on the walls of churches. Art was the literature of the illiterate. Given this as the artists’ purpose, clarity of narrative, rather than illusionism or innovation, was the goal. The painted scenes best served their purpose if they were easily seen at a distance, immediately intelligible, and educational. The didactic importance of religious iconography, combined with the power and wealth of the Church as the major source of artistic commissions during the Middle Ages, assured the development and proliferation of mural painting during these centuries.

The two basic types of medieval mural painting are *fresco secco* and *fresco buono* (also called *buon fresco*). *Fresco* means “fresh,” *secco* means “dry,” and *buono* means “good” in Italian. While both methods are used for large-scale paintings on ceilings and walls, statistically most medieval murals are painted in *fresco secco* on dry plaster, the term used loosely to refer to painting on a dry wall surface with any form of paint. During the Middle Ages, some true *fresco* was used, in which paint was applied directly to wet lime plaster, but it was rare prior to the Gothic era.

Fresco Secco

Fresco secco is thus named because the technique requires the artist to work on a surface of lime plaster that has dried. The night before and again the morning of the day of painting, the wall is thoroughly soaked with *limewater*, also known as *milk of lime* or *lime milk*, which is water mixed with slaked lime (calcium hydroxide); the method is also known as *limewash painting*. Because lime dissolves only partially in cold water, and still less in hot water, the limewater is weak and the wall must be saturated with it. While the wall is wet, painting is done with a mixture of ground pigment, water, and limewater. Alternatively, the artist may paint with ground pigment mixed with a binder. *Casein* may be used as the binder, mixed with pigment and water. Casein, a milk protein, is a yellow powder made by drying curds from sour skim milk. Casein forms a strong bond with the lime and becomes water-resistant when dry. Some Romanesque murals, however, were painted on the dry plaster surface with *distemper*, using a mixture of earth colors, water, and any one of a variety of binders. The artist builds up layers which are transparent or translucent.

Among the oldest written description of the materials and methods of fresco secco is that offered by the author Theophilus, whose *De diversis artibus* (*On Diverse Arts*), written around 1100 or in the early twelfth century, an encyclopedic treatise of information on technique and training in the arts, was mentioned in the previous chapter. Theophilus says that an artist learns his craft “little by little.” Key to the art of painting is the careful blending of colors which should be done as exactly as possible. He advises his reader to benefit from the experience of talented craftsmen. No mention of studying from nature is found.

The Italian author Cennino Cennini, in his treatise *Il libro dell'arte* (*The Craftsman's Handbook*), written in the late fourteenth or early fifteenth century (also discussed in the previous chapter), provides information on how to paint in secco. In Chapter 72, Cennini says, “There are two good kinds of tempera for you, one better than the other. The first tempera: take the white and yolk of the egg; put in a few clippings of fig shoots; and beat it up well.” Cennini cautions his reader, “Know that if you put in too much tempera the color will soon crack and peel away from the wall. Be reasonable and judicious.” He continues, “The second tempera is simply egg yolk; and know that this tempera is a universal one, for wall, for panels, or for iron . . .”

Fresco secco is likely to be used when limitations of time, money, and working space make the true fresco buono method impractical. Fresco secco may be used to touch up a painting executed in fresco buono that has already thoroughly dried. An advantage offered by fresco secco is that the painter need not be concerned with determining how much of the wall may be painted in one day, nor must he race against the drying time of wet plaster. Fresco secco is more opaque than the relatively transparent fresco buono.

Fresco Buono

The history of the true fresco technique goes back at least to the ancient Minoan culture in the mid-second millennium BCE. It was highly developed in ancient Roman times. Fresco buono became popular during the Middle Ages in southern Europe and was used especially in Italy on interior walls and ceilings. The medium has been used outdoors with some success in places that are sheltered, such as on the inner walls of cloisters, in passageways, or under porches in the warm dry climate of southern Europe, but deteriorates readily in the rainy wet climate of northern Europe.

Frescoes, as is required by the working process, are executed by a team. The first step is to waterproof the painting surface. Layers of plaster, beginning with the coarsest and ending with the finest, are applied to form a smooth even surface. Although there were variations, the following description gives an idea of the medieval procedure used to prepare the wall or ceiling. The first coarse-grained rough coat of plaster applied is the *scratch coat* (*trullisatio* in Italian). The second layer of rough plaster is the *brown coat* (*arriccio* or *arriciato* in Italian). The third layer is the *sand coat* (*arenato* in Italian) made of lime and sand mixed with water. Fewer coats of plaster may be used. The portion of the wall to be painted in one day of work is estimated and covered with a very smooth layer of lime plaster—this is the final layer of plaster on which the painting is executed, known as the *intonaco*.

The plaster consists basically of two parts sand to one part lime. Calcium carbonate (CaCO_3), readily available in the form of limestone, sandstone, marble, chalk, oyster shells, and other sources, is burned with wood to make lime, which is calcium oxide (CaO). Lime has been used as plaster since antiquity. Unlike most other substances, lime dissolves more readily in cold water than in hot. An active and caustic alkali, lime mixed with water results in a reaction that forms calcium hydroxide (Ca(OH)_2), called *slaked lime* (*hydrated lime*), in a process that generates great heat, causing the water to evaporate. The final layer of plaster uses *slaked lime putty* which is a soft paste made by slaking lime with water and allowing it to age at least six months or more, the longer the better. This final layer, used to create a smooth surface, may consist of one part lime putty mixed with one part fine sand and marble powder.

After each layer of plaster is applied and starts to dry as the water evaporates, carbonation begins as the calcium hydroxide— Ca(OH)_2 —combines with the carbon dioxide in the air, thus forming calcium carbonate: $\text{Ca(OH)}_2 + \text{CO}_2$ yields $\text{CaCO}_3 + \text{H}_2\text{O}$. As the surface continues to dry, the lime crystallizes around the sand. The lime particles bond tightly to each other, while the sand stabilizes this process, preventing shrinkage. In other words, as evaporation occurs, the calcium hydroxide reacts with the carbon dioxide in the air and reverts to calcium carbonate. Complete carbonation below the surface may take several years.

The artist may paint a full-scale sketch of the fresco's composition directly on the wall with a pigment called *sinopia*. A red ochre, sinopia takes its name from the city of Sinope in Pontus, Asia Minor. This preparatory underpainting itself came to be referred to as "the sinopia." This pigment has long been used—the Roman author Pliny says it was imported in



Photo 3.1 Simone Martini (1284–1344), *Madonna and Child with Angels*, 1341, Italian, sinopia drawing uncovered in lunette above doorway, Palace of the Popes, Avignon. Author's photo.

several shades. In the late Middle Ages and Early Renaissance, the sinopia was drawn on the *arriccio* layer. A sinopia painting for a fresco of the *Madonna and Child with Angels* (Photo 3.1) by the Italian artist Simone Martini (1284–1344) was uncovered in a lunette above a doorway at the church of Notre-Dame des Doms in Avignon. Simone Martini is known to have left his native city of Siena in 1336, moving with the popes to the southern French city of Avignon, as did many other Italian artists at this time. This sinopia was painted on the lowest of three plaster layers; the upper two have been placed inside the Palais des Papes (Palace of the Popes).

In the Renaissance, perhaps beginning around 1500, a full-scale *cartoon* of the finished composition was used in place of the sinopia. The whole design is drawn to scale on a heavy piece of paper. This is the cartoon, the name derived from *cartone*, the Italian term for the paper on which it is drawn. Separate and more complete drawings are made for the important portions of the composition such as the figures, and perhaps additional drawings for the most detailed parts such as the faces. These are then enlarged to full scale.

The cartoon is usually transferred to the penultimate layer of plaster, using one of two methods. The first, known as *pouncing*, uses a small

spiked wheel attached to a handle to make series of tiny holes along the lines of the cartoon. Charcoal or another dry color is placed in a little cloth sack that is “pounced”—tapped or hit against the cartoon, causing the charcoal dust to penetrate the tiny holes in the cartoon, thereby transferring the outlines to the wall. These lines are then painted with a dark color. The second method is simply to hold the cartoon up to the wall and use the back of a paintbrush to press over the outlines and make slight indentations into the plaster.

Before applying the final coat of plaster, just how much of the surface can be painted in one day's working time must be determined, which was usually six to eight hours, depending on the temperature, humidity, and moisture content of the plaster. The individual sections of the intonaco painted in one day are called *giornata*, meaning “day's work” in Italian. Note that a portion of the sinopia or cartoon has just been covered and must now be remade. As soon as the plaster sets, the composition is redrawn or the cartoon is re-pounced or otherwise retraced on the freshly plastered section of the wall.

The actual paint consists only of finely ground pigment mixed with water, which is applied to the wet lime plaster surface. The painter starts at the upper left of the wall to avoid dripping paint on finished work below, and left because everyone was obliged to be right-handed during the Middle Ages. Painting must commence promptly and be executed rapidly, racing against the drying time of the plaster. As the plaster dries, the pigments are absorbed by capillary action, making the colors integral to the wall. The powdered pigment is embedded in the calcium carbonate crystals of the final layer of plaster. When dry, the colors look much as they did in their powdered form. While each layer is transparent, opaque effects may be achieved by building up several coats of paint.

Gold halos are made by applying a glutinous solution to the areas to be gilded. Pieces of gold leaf are lifted and carefully applied. Cennini described a strong glue, greenish in color, composed of linseed oil mixed with lead white, the green copper acetate pigment known as *verdigris*, and a type of resin known as *sandarac*.

The advantages of the fresco buono method are many. It is especially suited for large-scale interior murals. Because the painting binds with the plaster as the plaster dries, becoming part of the plaster and thus an integral part of the wall, it is extremely durable. (In contrast, fresco secco is far less permanent because the painting is merely a thin surface film.) When the plaster is troweled, some of the flat facets of the gritty marble dust in its composition are exposed. Because these marble specks do not

absorb the fresco colors, they give a subtle sparkling sheen, a luminous crystalline glitter to the surface.

The disadvantages of true fresco are also numerous. Preparation of the wall is time-consuming and cumbersome. The painter must work quickly, racing against the drying time of the plaster. If, at the end of the day, he fails to finish painting the *giornata*, the unpainted portion must be cut or chipped away. The seams between one day's work and that of the next are always visible and are best located at the edges of figures or other forms. The surface plaster may crackle if the lime putty is too rich.

Pigments compatible with fresco buono are more limited than those used in other painting techniques. This is because some colors are chemically incompatible with the alkalinity of lime plaster, adversely affected by its caustic action. This prohibits almost all colors of vegetable origin. Colors that remain stable when in contact with alkalinity are referred to as *limeproof pigments*. Furthermore, the pigments must not be affected by exposure to light and air. Because the colors dry lighter, it is hard to know while working what the final color relationships will be. Colors must be applied darker than desired in the finished painting. It is difficult to match the colors of one day's work with those of the preceding days. A painting done in fresco buono may be touched up later using fresco secco and details may be applied using egg tempera. However, neither will adhere well over time as they merely form surface films that are readily abraded or otherwise flake away. Enemies of fresco buono include acidic fumes, smoke from candles burned below or nearby, and soot.

Perhaps the most famous example of the disastrous results of deviating from the time-tested fresco buono method, although one post-dating the Middle Ages, is the huge mural of the *Last Supper* painted by Leonardo da Vinci (1452–1519) in the refectory of Santa Maria delle Grazie in Milan, 1495–1497/1498. The painting is in ruined condition due to the experimental medium Leonardo da Vinci used, working on dry plaster with a combination of oil and tempera, and possibly also fresco. The paint did not adhere well and quickly began to deteriorate while he worked on it! This mural has suffered further from the good intentions of restorers who repainted it twice in the eighteenth century and once in the nineteenth century. It has suffered additionally from wars. The still life on the table is said to have originally been as realistic as a seventeenth-century Dutch painting.

A related form of fresco painting known as *mezzo fresco* was used in the second half of the sixteenth century and thus post-dates the Middle Ages. The intonaco is allowed to dry partially until firm. The cartoon is

held to the wall and the outlines of the design are pressed into the intonaco by tracing over them with a pointed instrument. Because the plaster is somewhat firm, the colors are only partially absorbed and therefore some lime is mixed with the colors to increase their adhesion to the wall.

Pigments Used by Medieval Muralists

Theophilus notes that different pigments are used for different painting techniques. The large scale of murals made costly pigments inappropriate. Medieval writers divided pigments into two classes: natural and artificial. *Natural pigments* are of three types: (1) elements such as carbon, gold, silver, and tin; (2) minerals: metallic salts such as iron oxide and copper carbonate, colored earth such as ochres, and ultramarine blue from lapis lazuli; and (3) vegetable extracts such as yellow saffron extracted from the crocus stigma, and blue extracted from violets and cornflowers. Dyes produced from vegetable sources fade when exposed to light and some will, additionally, change in color. All yellows, except for that derived from weld, turn somewhat reddish or brownish. Reds may turn somewhat to bluish or otherwise discolor.

The second class, *artificial pigments*, which refers to manufactured salts, are also of three types: (1) those made by the direct combination of elements, such as vermillion (mercury and sulfur); (2) those made by acid on metal, such as verdigris, an acetate of copper; and (3) those made by decomposition of salts in solution, such as the lake pigments made from animal or vegetable matter in union with a metallic compound that serves as an inert binder.

Masterpieces of Painting on Walls and Ceilings

Among the earliest of extant medieval murals are those created in the first half of the ninth century in the little church of Santa Maria foris portas (*foris portas* means “outside the gates”), near the northern Italian town of Castelseprio. Scenes located in the apse and archway are painted in fresco secco, executed in lime painting on plaster, the actual paint consisting of a mixture of lime and water (limewater) combined with ground pigment. Unfortunately, the murals are badly damaged as they had been covered with plaster and were uncovered only in 1944. Although portions are missing or illegible, the cycle is thought to depict scenes from the lives of Mary and Jesus. Among the better preserved scenes are the

Presentation of the Infant Jesus in the Temple, Herod's plan to murder the children as revealed in *Joseph's Dream*, and the subsequent *Flight into Egypt* in which Joseph flees with his family. The style is fully developed and sophisticated, the figures animated, their drapery drawn with the hard angular folds of the Byzantine style.

The most important Romanesque mural paintings to survive in France are those in the nave vault of Saint-Savin-sur-Gartempe, located east of Poitiers in western France. Saint-Savin was built mostly between c. 1060 and 1075. The oldest parts are the apse, ambulatory, chapels, and transept; the rest of the church dates to c. 1095–1115. Saint-Savin is a hall church, a construction type used for small churches in which the nave vault rests directly on the arcade columns and the elevation is only one story. The nave vault of a hall church offered an opportunity for muralists. The famous frescoes here are referred to as “the Bible of Saint-Savin.” There are additional paintings in the narthex (entry vestibule) and in the crypt.

The nave vault, painted c. 1100, is divided into four long rows. The program derives from the Old Testament from Creation to the story of Moses. There are no precise divisions between the scenes, but where one ends and the next begins is evident. Curiously, the sequence of the scenes is irregular and the direction the viewer must look to follow the narrative keeps changing. The vault was painted by several artists—four different “hands” may be discerned—yet the overall style is consistent. The many scenes were intended to be viewed as a whole, within the context of the architecture of the church of Saint-Savin, under dim and colored light. Medieval windows were made of colored glass; clear glass is a recent invention (all glass is actually slightly colored).

In *God Creates the Sun and the Moon* in the Genesis cycle, Sol and Luna are shown. Plants, already present, are of unidentifiable species known only to what may be called “biblical botany.” In *God Creates Adam* and *God Creates Eve*, there is little anatomical difference between their bodies, except that Adam is bearded. God's gesture indicates that he is speaking to Adam. In the Garden of Eden, Adam and Eve succumb to the serpent's temptation and to eat the forbidden fruit of the Tree of Knowledge, thus doing the only thing they are told they cannot. As the story continues, Cain and Abel are depicted making their sacrifices. The Saint-Savin murals offer a comfortable combination of ornamentation and narration. The story is easy to “read” at a distance, thereby fulfilling the needs of the medieval church. The zigzag hemlines to the garments, impossible gravity-defying pleats, and fanning hemlines are all characteristically Romanesque and are found also on contemporary sculptures.

The story of Noah receives notable attention in the cycle. Because of their wickedness, God destroyed the people of the earth, sparing only Noah, his family, and the animals gathered in the ark. *God Commands Noah to Build the Ark* is depicted according to Genesis 6:14-22 in which Noah is to “build an ark and take on board two of every kind of living thing.” The charming depiction of *Noah’s Ark* (Color plate 7) shows the ark floating atop the striped water. Each of the arched windows is filled with a pair of animals, without regard for relative size of different species. Even the ark has an animal head. The rains came for forty days and nights, the earth was flooded and cleansed, the water receded, the ark came to rest on land, and Noah and his family disembarked. In *God Blesses Noah after the Flood*, “body language,” to use today’s term, tells the story; Noah’s pose with head lowered showing his humility. Which figure is God and which is Noah is made obvious: God’s larger size is used to indicate his greater importance in the hierarchy. Noah plants a vineyard, but consumes too much of his own wine. In the *Drunkenness of Noah*, as told in Genesis 9:20-27, Noah’s nakedness is discovered by his sons. He is mocked by his youngest son, Ham, and covered with a cloak by his two older sons, Shem and Japheth. The depiction of Noah’s nakedness, required by the story, makes clear that study from the human figure was not part of a medieval artist’s education. The figures look as if they have been cut from paper, their bodies divided into segments of flat color within hard outlines. The figures—evidently without benefit of bone, muscle, or mass—glide and hover rather than walk. Like a first draft for a human being, they are awkward and stumbling, with exaggerated movements that give a certain intensity and animation, enhanced by the garments with Romanesque conventionalized pleats and gravity-defying hems. Similarly, the architectural setting is drawn without benefit of linear perspective.

In the *Building of the Tower of Babel*, two-dimensional figures exist against flat zones of color. Concern is neither with illusion of space, nor with texture, but with the many lines that form almost abstract patterns and unify the overall effect. The Lord, on the left, in a typically Romanesque twisting, cross-legged pose, directs workers. Nimrod, on the right, passes blocks and gestures.

The cycle includes a depiction of *Abraham Rescuing Lot*, who was taken prisoner during the battle of kings. The shorthand narrative “grape cluster” convention, with the heads clustered together like a bunch of grapes, is used here.

The scene of *Moses Receiving the Law* is vivid and lively. As angels blow long trumpets, God, in a mandorla (an almond-shaped glory of light),

gives the tablets with the Ten Commandments to Moses who humbly kneels before him on Mount Sinai. No attempt has been made to be spatially consistent or to create an illusion of physical distance. Instead, the integrity of the picture plane is maintained. This will change in the Renaissance and especially in the Baroque eras, when artists will paint away wall and ceiling surfaces, creating vast vistas with their brushes. Thus, in *Crossing the Red Sea*, the quadriga is turned obliquely to the picture plane in spite of the fact that the four horses are parallel to the picture plane. Expressive and theatrically emphatic in their gestures, the figures and even the trees seem to move, to twist, as if they too are animate. There is no concept of a naturalistic landscape; instead, the background is abstract, pressed flat into a decorative, two-dimensional design of bands of color. The painting affirms the wall surface rather than creating an illusion of depth beyond the picture plane. Perspective is inaccurate or absent.

In addition to the nave vault paintings, another mural cycle is found at Saint-Savin below the choir in the barrel-vaulted crypt, painted in the early twelfth century. Because the small space is only approximately eight feet high at its peak, the viewer sees these paintings close up. Appropriately, the scale of the figures is much smaller than in the nave vault. Arranged in bands, the scenes follow one another without precise divisions in between. The story begins with the *First Trial of Saints Savinus and Cyprian*, two Poitvin saints, before the Roman proconsul Ladicius. The figures are labeled to enhance the clarity of the narrative, but by reinforcing the two-dimensionality of the picture plane, the writing negates the possibility of illusionistic depth. The result of the trial is seen in the *Torture of Saints Savinus and Cyprian*—they are flayed and tormented with pinchers. The saints have a second hearing before Ladicius, followed by the *Second Trial of the Saints* before the proconsul Maximus, in which some attempt is made to depict an interior space. After this second trial, Savinus and Cyprian are shown to be condemned to the wheel and thrown to wild beasts in the circus, but the benevolent beasts refuse to harm them. Several of the later scenes are in deteriorated condition and can no longer be read. Ultimately, Saints Savinus and Cyprian are beheaded, the cycle satisfying the medieval fascination with horrifyingly gruesome tortures and deaths.

The paintings at Saint-Savin-sur-Gartempe were painted on the dry plaster surface using earth colors mixed with distemper. At Saint-Savin, as is true of most Romanesque murals, the paint is applied in areas of flat color, each area consisting of a consistent unshaded color. The dark

lines are added, followed by the highlights, in linear strokes. Finally the artist re-paints the outlines of the shapes in black or dark brown. The style is intentionally non-naturalistic as well as highly sophisticated. In the Poitou region (the area of Saint-Savin-sur-Gartempe), the colors used in murals are generally lighter than elsewhere in France.

Among the finest extant Romanesque wall paintings in France are those in the church of Notre-Dame in Montmorillon. Down in the crypt, in the apse chapel dedicated to Saint Catherine, is a depiction of *Mary and Jesus Enthroned*, shown in a mandorla against a background of horizontal stripes and undulating clouds. Two angels fly down to crown Mary as she brings her child's hand to her mouth in a tender and charming gesture. Simultaneously, Jesus places a crown on the head of a woman. Her identity is debated. If the object she holds is a ring, she is Saint Catherine and this depicts the "mystic marriage of Saint Catherine" in which she symbolically takes Jesus (and the Church) to be her husband. If the object she holds is a disk representing the host, then she is Ecclesia, the personification of the Church. Because the chapel is dedicated to Saint Catherine, the former interpretation of the iconography is more likely than the latter, except that there are no other known depictions of the mystic marriage of Catherine at so early a date. This mural was probably painted around the turn of the twelfth century in a period of transition from the Romanesque to early Gothic, a time of great popular devotion when the Cult of the Virgin Mary was especially strong.

In Italy, the most notable extant example of Romanesque mural painting is in the church of Sant'Angelo in Formis, several miles north-east of the city of Capua in Campania, at the top of the town's winding roads. Because the church is dedicated to the Archangel Michael, it is known as Sant'Angelo; *in Formis* refers to the aqueducts that brought water to Capua. Construction of the church was presumably financed by the Norman Richard I, prince of Capua, and Desiderio (Desiderius), the abbot of Montecassino who led the Benedictine religious community established here and who would later ascend the ecclesiastical ranks to become Pope Victor III. The church was built after 1065, possibly started in 1072. The portico was built at the beginning of the twelfth century after the previous portico collapsed.

The interior walls of this small simple church were entirely frescoed. Painting started in 1072 and finished either in 1078, the year of Richard I's death, or in 1087, the year of Desiderio's death. Although some portions are lost, most of the extensive cycle remains quite intact. The apse is occupied by a depiction of Jesus. In the aisles are Old Testament

scenes. The nave walls are covered with scenes of the life of Jesus from the New Testament. The *Last Judgment* is portrayed on the entrance wall.

In the depiction of *Jesus in Glory* in the central apse, Jesus blesses with his right hand and holds a book in his left on which is written in Latin, "I am the Alpha and the Omega, the beginning and the end." He is accompanied by the symbols of the four Evangelists: the eagle of John, the lion of Mark, the angel of Matthew, and the bull of Luke. Also depicted is Abbot Desiderio holding a diminutive model of this church which he is offering to God. (The bell tower is incorrectly shown on the left side; in fact, it is on the right side.) Desiderio is depicted wearing a halo that is square rather than round, which indicates he was alive at the time this was painted. Also depicted here are the archangels Gabriel, Michael, and Raphael, as well as Saint Benedict holding a book representing his *Rule* (*regula*).

The New Testament scenes on the nave walls are divided by fictive columns. The most important scenes are larger, such as the parable of the *Good Samaritan*. The parables also include a depiction of the *Rich Man and the Poor Man*. The miracles of Jesus include portrayals of *Jesus Opening the Blind Man's Eyes* and the *Raising of Lazarus*. The depiction of the *Kiss of Judas* illustrates how distortion may be used as a means of emphasis, an effective aid in storytelling. In this scene the viewer senses a bustling, noisy throng of people. There is no interest in perspective or in creating illusions of three-dimensionality on the two-dimensional wall surface. In the scene of *Jesus's Entry into Jerusalem*, the setting consists of several bands of color and simplified versions of trees that boys climb to get a better view. The painter created so many heads, yet so few bodies. The *Last Supper* (Photo 3.2), routinely shown to take place at a rectangular table, is shown here at an unusual semi-circular table. This is followed by *Jesus Washing the Disciples' Feet* (also seen in Photo 3.2). These murals were intended to be both decorative and didactic.

The entry wall is occupied by a depiction of the *Last Judgment* with Jesus enthroned in the center, surrounded by angels and apostles. Below him, three angels hold scrolls and there are more angels between the windows. The groups of people depicted here represent the Blessed in two rows with the authorities above and the common people below, and the Damned also in two rows with the authorities above and devils, demons, and Judas in chains in the flames below. Also on the entrance wall, in the right small apse Mary is depicted with Jesus, two angels, and female martyrs below. And in the left small apse Jesus appears—although only his head remains—with two saints and male martyrs below.



Photo 3.2 *Jesus's Last Supper* and *Jesus Washing the Disciples' Feet*, Italian, 1072–1078 or 1072–1087, fresco secco, Sant'Angelo in Formis, Capua, nave wall. The Bridgeman Art Library.

The several artists who created the murals of Sant'Angelo in Formis are believed to have come from the local area and to have been influenced by the Byzantine style, as learned from Greek painters who worked at Montecassino. A different artist is thought to have been responsible for each section of the church: the apse, the nave walls, the aisle walls, and the inside of the facade wall.

Another Italian hill town that boasts more famous medieval murals is Assisi, located between Florence and Rome. The church of San Francesco here is the mother church of the Franciscan order, founded by Francis of Assisi in the early thirteenth century. Francis died in 1226; the church was built just after his death, between 1228 and 1253. San Francesco is constructed as a double church consisting of two levels, referred to as the upper church and the lower church. Visitors may enter on either level and an interior staircase connects the two floors. The Franciscans, like the Cistercians, favored simplicity in their lives and in their art. Yet the interior of San Francesco is decorated lavishly with murals. Most of the wall and ceiling areas are painted in the lower church, and they are entirely painted in the upper church. Whether this

is in accordance with Francis's vow of poverty has been questioned. Unquestioned, however, is the fame of the frescoes that have a very important place in the history of art. A significant number of the best Italian artists of the late thirteenth and early fourteenth centuries painted here and their work remained very well preserved until 1997 when an earthquake damaged the fragile frescoes.

Among the artists who painted in San Francesco was Cimabue (Cenni di Pepi) (c. 1240–1302) of Florence, who worked extensively in both the lower and upper churches. Cimabue is the first artist discussed in Giorgio Vasari's famous sixteenth-century *Lives of the Artists*, mentioned in Chapter 2. Vasari says Cimabue was born "to give the first light to the art of painting," and that Cimabue "achieved little less than the resurrection of painting from the dead." Giotto is said to have been among Cimabue's many disciples. Ultimately, says Vasari, "Giotto obscured the fame of Cimabue, as a great light outshines a lesser."

In the lower church, Cimabue painted the *Madonna and Child* with angels and Saint Francis, c. 1280, partly in fresco buono, partly in fresco secco. Cimabue gives Francis a humanity not seen in Bonaventura Berlinghieri's earlier depiction of Francis, discussed earlier (Color plate 5). The softening of the physical type and of the drapery is due partly to the change in medium from egg tempera on a wooden panel to fresco on a plastered wall, and partly to a growing interest in the natural world.

In the upper church, painting proceeded from the apse to toward the door and from the top, down the walls. The former is customary due to the liturgical importance of the apse and altar. The latter is dictated by the dripping paint of the fresco technique. Cimabue, among the first painters to work in the upper church, painted in the apse, transepts, and vault.

In the transepts of the upper church, Cimabue painted two nearly identical depictions of the *Crucifixion*, after 1279. The impermanence of pigments used in medieval frescoes is seen here for the lead white pigment has oxidized, causing the white to turn black, resulting in a fresco that looks like a negative photograph. Still, Cimabue's style of calm and monumental grandeur remains evident.

The fresco buono cycle on the lower walls of the upper church that relates the life of Saint Francis in twenty-eight scenes, both celebrated and controversial, is the focus of seemingly endless debates devoted to determining the date of the murals and especially to the question of who painted them. Most historians believe the Saint Francis cycle was painted in the late thirteenth century. But, because documentary sources have not provided an irrefutable answer to the artist's identity, the issue comes

down to analysis of style. Was the artist the young Giotto? The so-called Saint Francis Master? The so-called Santa Cecilia Master? Someone else? Perhaps, as is probable and would accord with workshop practices of the time, more than one artist was active here.

The story begins on the right wall, at the apse end (Color plate 8), and is followed by looking always to the right, skipping over the entrance wall, and continuing on the left wall to its end. The first scene in the cycle is *Francis Honored by a Simple Man in Assisi*, the point being that even this man recognizes Francis's future greatness. The composition is also simple, divided into halves. The architectural setting derives from the actual architecture of the main square of Assisi with the ancient Temple of Minerva and the town hall, both still standing today. The artist evidently copied from actual buildings and was interested in the antique. Although these will be key characteristics of the Renaissance, as yet, there is little concern for archaeological accuracy or duplicating observable reality.

Francis was born into the wealthy middle class, the son of an Italian father and a French mother, but having made up his mind to serve others, in the second scene, *Francis Gives his Cloak to a Poor Knight*, he symbolically gives away his cloak. The composition cleverly uses the hills to point to Francis's head—everything works together to enhance the clarity of the story. This landscape is somewhat naturalistic, more so than during the Romanesque era, but the interest in nature will gradually become much greater and its representation far more scientific in the Renaissance.

The story continues in *Francis Dreams of a Palace Filled with Arms*. The room in which Francis sleeps and the palace are both drawn in one-point perspective. Logically, one side recedes into space, yet, illogically, another remains parallel to the picture plane. The impression is that the walls of Francis's bedroom have been removed, thereby allowing the viewer visual access to the interior.

In *Francis Prays before the Crucifix*, the church of San Damiano's dilapidated condition allows the viewer to see this event taking place inside. The church is drawn in approximate two-point perspective, both sides receding into space, thus turning the church on an oblique angle to the picture plane.

In *Francis Renounces his Earthly Possessions*, he turns away from his former way of life and all worldly goods. The people look amazed or shocked. Francis returns his clothing to his father who appears angered and is restrained by another man. The gestures are dramatic and emphatic. The storytelling is simple and clear, with an instinct for the succinct. The

bishop hides Francis's nakedness. The figures are large and appear three-dimensional. All activity takes place within a stage-like space, which is, again, divided into two contrasting halves.

Jump ahead in the story to *Pope Honorius III Approves the Rule of the Franciscan Order*. The papal throne room is drawn in perspective. This is not true one-point perspective, nor even consistent axial perspective, yet an interest in creating an illusion of depth beyond the picture plane is apparent. This curious building seems to have no ceiling.

The following scene, the *Expulsion of the Demons from Arezzo by Saint Francis*, shows the church of Arezzo, on the left, recorded with a degree of fidelity. On the right is a medieval Italian walled town in which all the little buildings are turned obliquely to the picture plane.

In the next scene, *Francis Offers to Undergo Trial by Fire*, he stands before the sultan of Egypt. The impression is that these are actors on a stage, performing for an audience, using easily seen and understood gestures to relate the story. The small building on the left and the sultan's throne on the right look like stage props.

Skip forward to *Francis Preaching to the Birds*, surely the most famous scene in the cycle. The intent is to demonstrate his reverence and respect for all of nature's creatures, the very subject indicative of a growing interest in nature. The birds are now identifiable species. This scene represents a major move in Italian painting toward naturalism, its innovation evident by comparison to the same subject depicted by Bonaventura Berlinghieri in 1235 (Color Plate 5).

Later in the cycle, the artist portrayed *Francis Preaching before Pope Honorius III* himself. All figures are shown within an open loggia. The illusion of space created by linear perspective is adequate to accommodate everyone.

The scene, *Francis Receives the Stigmata*, depicts a miracle said to have occurred in 1224 whereby Francis received Jesus's wounds. Throughout the cycle, events in Francis's life are shown to parallel those in the life of Jesus.

The story continues with the *Death of Francis*. Thereafter, Francis appears to various people in visions, and performs miracles. He is canonized. More miracles are performed. *Francis Liberating the Penitent Heretic, Pietro d'Alife* is the twenty-eighth and final scene in the cycle. The painter included free interpretations of ancient monuments. The column of Trajan with its spiral bands of relief carving is employed as a compositional device that provides a firm vertical accent to halt the flow of the narrative from left to right at the end of the story.

Because the Saint Francis cycle is painted using the fresco buono technique, it has been possible to study the plaster patches, thereby determining the number of days required to execute each scene, as well as the sequence in which the plaster patches were painted.

Some historians claim the Saint Francis cycle in Assisi is the work of Giotto. However, a fresco buono cycle that is definitely by Giotto—in fact, his most famous work—is found in the Arena Chapel in Padua, the name derived from the fact that the chapel was built on the site of an ancient Roman arena. Giotto di Bondone (1277–1337) of Florence has been called a radical innovator and has an extremely important place in the history of art. He was famous in his own lifetime—a satisfaction not always accorded to people of artistic genius. Giotto is said to have been trained by Cimabue, one of the painters of the upper and lower church of San Francesco in Assisi. Although little is known about Giotto, he is reported to have been notably short and conspicuously ugly—yet he created great beauty. As to his personality, he was a man of wit and charm with a fine sense of humor. One story goes that a pig tripped Giotto. The artist stood up and laughed, saying that it was only correct for the pig to treat him this way because every day he painted with a brush made of pig bristles, yet he had done nothing for the pig in return. This story includes information on the type of brushes Giotto used.

Giotto's murals in the Arena Chapel are his earliest firmly attributed work. There is some debate about their date. They were not painted before 1305, may have been painted 1305–1306, and probably were completed before 1313. But the paintings are mature in style and this was an important commission; Giotto must have had significant prior experience. The question remains: what did Giotto paint prior to the Arena Chapel to have developed such a high level of ability and to have been selected for this major job? The Assisi Saint Francis cycle is a possibility.

The Arena Chapel was built by Enrico Scrovegni to atone for his father's money-lending business and is also known as the Scrovegni Chapel. On the entrance wall, Giotto portrayed Enrico Scrovegni donating this chapel, which is accurately recorded. The chapel is small in size, simple in shape, and well-preserved. It was planned from its initial design to be decorated with frescoes.

Using the fresco buono method, Giotto painted the entire nave of the chapel, including the entrance wall and the chancel arch; the chancel itself was painted by his followers. The cycle has great thematic and aesthetic coherence, the latter enhanced by the rich blue backgrounds and

the tan-colored buildings in each scene. Almost all of these buildings are foreshortened to be seen by a spectator standing in the center of the chapel. The sequence of scenes in the cycle, with only minor exceptions, is followed visually by a viewer who repeatedly turns to the right, and looks at the tiers in a downward-turning spiral.

The cycle on the left, right, and chancel walls consists primarily of scenes from the lives of Mary and Jesus. The story begins with *Joachim's Expulsion from the Temple* because he is childless. Rejected and dejected, Joachim goes to the shepherds. Giotto conveys Joachim's profound sadness through his posture with head lowered and shoulders slouched. The event is further humanized by details such as the dog jumping up to welcome Joachim. The visual narrative produces a powerful impact; Giotto's figures display the human emotions characteristic of late medieval Gothic art. It is a strong style, yet it is quiet and restrained, the movements measured. The composition is reduced to only the essential elements—unnecessary ornament is avoided in Giotto's aesthetic of economy.

Among the many scenes in the cycle is that of *Joachim among the Shepherds*. Giotto's most important innovation is the expression of mass and weight; his bulky figures are solid, substantial, and sculptural, their three-dimensionality creating a sense of volumetric space. The figures and the composition are simple, reduced to fundamentals. Nothing detracts from the emphasis on human emotion. The viewer senses Joachim's innermost feelings.

Joachim's wife, Anna, had also long hoped for a child. In *Anna is Told she will Give Birth*, the figures are strongly modeled, emphasizing their roundness, and are surrounded by a cubic space. The differences in textures are not documented and all materials look the same, whether flesh, fabric, or stone—a characteristic of the medium. The figures are not individualized, there are no shadows, and no single light source—these are characteristics of the artist.

Giotto's overall composition of the cycle, and of the composition within each individual scene, is superb. Totally concerned with the narrative, in *Joachim Dreams he will have a Child*, Giotto works in terms of carefully organized figure groups who actually seem to interact, exhibiting what has been described as "psychological rapport." Giotto gave intimacy to religious subjects, making them simultaneously domestic and grand.

After each is told separately they will become parents, in *Joachim and Anna Meet at the Golden Gate*, they share their happy news. The Golden Gate is turned obliquely to the picture plane. The tension has yet to be resolved between the two-dimensionality of the picture plane that was

emphasized in earlier murals (as at Romanesque Saint-Savin-sur-Gartempe and Sant'Angelo in Formis) and the three-dimensional possibilities of illusionistic pictorial space that would be given great importance by the end of the Gothic era and especially in the Renaissance and later.

Giotto depicts the *Birth of Mary*, born to Anna and Joachim, followed by the *Presentation of Mary in the Temple*. The narrative resumes again when it is time for Mary to marry. In the *Suitors Present their Rods*, each of the many hopefuls prays that his rod will flower and that he will, therefore, be chosen as Mary's husband. The elderly Joseph is selected and the *Marriage of Mary and Joseph* follows. The temple looks the same in each scene, making it easy to follow the story.

The *Annunciation* is cleverly depicted across the space of the chancel arch. The angel Gabriel on the left tells Mary on the right that she will give birth to Jesus. Light is used to model the figures, making them appear round, but there is no single light source, no shadows, no atmosphere. Among the things eliminated in Giotto's austerity program is a consistent light source.

In the *Adoration of the Magi*, the three wise men come bringing gifts. The bible only mentions three gifts, from which an elaborate story developed: gifts of gold, frankincense, and myrrh were offered by three men—Caspar, Balthazar, and Melchior. They were elevated to the rank of kings; came to represent the three ages of youth, middle age, and old age; and even to represent the three races of humanity. Giotto employs a multitude of little devices to enhance the clarity of the subject, here subtly placing Mary and Jesus slightly above the magi. Giotto simplifies—no details, no individualization of figures—yet at the same time he is extremely sophisticated.

Joseph is warned in a dream of Herod's plan to murder all young children. The *Flight into Egypt* depicts Joseph taking his family into Egypt for their safety. The rocky outcropping echoes the silhouettes of the figures, the rocks rising above Mary and Jesus and then sloping down to point the way. The donkey is realistically and sympathetically rendered.

The *Massacre of the Innocents*, in contrast, is a scene of drama and violence, the clarity of the presentation enhancing the horror. The command to murder the children is given in the upper left. The scene is divided into two portions by the architecture. The figure groups are also divided, although not rigidly. Space is limited and all the action takes place on a shallow stage, very close to the viewer.

The composition of *Jesus's Entry into Jerusalem* is similar to that of the *Flight into Egypt* earlier in the cycle. However, the composition of the

Entry is cleverer for the next step the donkey takes—his hoof is raised higher now—will bring Jesus into the center of the scene. Human nature causes viewers to tend to want something in the very center of a composition, where we are accustomed to finding the most important person or event in the scene. And we tend to supply it, in that we mentally imply it, if it is not provided for us. This ingenious compositional device suggests movement toward the center. Many years later, Rembrandt was to use the same ploy in his famous painting, *The Night Watch*, in the Rijksmuseum, Amsterdam (1642), effective until that painting was cut down, especially on the left side. Before that, the next step the captain and lieutenant take would have brought them into the center of the composition.

In the depiction of *Jesus's Last Supper* (Photo 3.3), the apostles are seated around the table and within a room. But Giotto evidently encountered a problem with the location of the haloes. Can the wearer see through such a halo? Is it possible to eat supper while wearing the halo? *Jesus Washing the Apostles' Feet* takes place in the same room, making it easy



Photo 3.3 Giotto di Bondone (1266–1336), *Jesus's Last Supper*, Italian, c. 1305–1306, fresco buono, Arena (Scrovegni) Chapel, Padua. Scala/Art Resource, NY.

for the viewer to follow the story. Addressing the problem of portraying an event indoors, Giotto creates an illusion of space behind, beyond the picture plane. His solution is to remove two walls to allow the viewer visual access to the interior. His actors exist within a box-like stage space. The idea of painting figures truly within a pictorial space develops around 1300. But this cubic building is not realistically drawn for, although the receding side is seen, placing the viewer to this side, the facade is seen directly from the front. The apostles are only slightly crowded in this room; the earlier “grape cluster” system is gone.

The *Kiss of Judas* depicts the betrayal of Jesus. Judas’s gesture is sweeping, embracing, all-encompassing. The facial types of Jesus and Judas contrast. The scene is one of great drama, of commotion and emotion, with intense tension between the actors. Still, the figures and composition are clear and simple.

The result of this betrayal is the *Crucifixion*, in which Jesus’s anatomy is rendered with a fair degree of accuracy. The weight of the body seems to pull on the arms. The varying gestures of the angels indicate their grief. Mary swoons on the left. The soldiers are on the right, with Jesus’s seamless coat. The setting is extremely simple and does not take attention away from the figures—they are Giotto’s primary concern and all else is secondary. The settings are not realistic; the sky, contrary to nature, is painted a uniform blue, modified now only by deterioration.

The composition of the *Lamentation over the Body of Jesus* is cleverly used to emphasize the sadness of the subject. The hill is barren; the tree is leafless, dry, dead, and certainly symbolic. The diagonal of the hill leads down to the heads of Jesus and Mary, enhancing the powerful emotional impact characteristic of Gothic art. Atypically, the focal point of the composition is off-center for the heads of Jesus and Mary are low and to the left. The lowness, in itself, is a subtle device to enhance the mood for in English, as in other languages, one speaks of “feeling down,” the mood implied being the opposite of “things are looking up.” Yet again, Giotto utilizes the poses of his figures for emotional connotation. But he is still more ingenious in manipulating our emotions by arranging the huddling mourners in a circle around Jesus. A space is available for one more person to join them; this place is for you, the viewer, who is invited to come very close to Jesus and join the grievers.

Giotto’s style of painting established the main artistic current in Italy and beyond. He turned away from the Byzantine style and created a style considered very “naturalistic” by his contemporaries. But he was not actually trying to duplicate observed visual reality and did not work

directly from nature. Instead, as was customary for his time, he worked from memory and from the work of other artists. Everyone and everything is simplified—no portraits, no details, no textures, no shadows, no atmosphere, no single light source. There is an austerity, a sparseness to Giotto's story-telling in which nothing detracts or distracts from the narrative and its emotions. The fresco buono medium is especially appropriate for a style like that of Giotto with broad forms and few details.

The true fresco method was also favored by artists working in Siena. The most notable building fronting on the Piazza del Campo in the center of the city is the huge Palazzo Pubblico (Public Palace). Originally built for the offices of the city's government, the Palazzo Pubblico still retains this function today as the city hall. Construction began in the late thirteenth century and was largely finished c. 1310 or by the mid-fourteenth century in the Gothic style (although another floor was added to the wings in 1680). On the second floor are the apartments of the magistrate and council members as well as the Council Chamber and the *Sala della Pace* (Room of Peace). In this room, surrounded by famous frescoes (Color plate 9), meetings were held by the "Government of the Nine"—the nine people who governed the Republic of Siena. Extensive murals seem to spread, flowing around three of the upper walls of the room which has a somewhat rectangular shape (the fourth wall is filled by a window). The late medieval return to an interest in large-scale landscape and cityscape painting, last seen in ancient Roman times, is found here in the murals painted 1338–1340 by the Sienese artist Ambrogio Lorenzetti (active c. 1311–1348; his brother Pietro was mentioned in the previous chapter). The murals, appropriately, depict the *Allegory of Good and Bad Government in the City and Country*. Ambrogio Lorenzetti portrays the councils of good and bad government and contrasts the ramifications of each.

On the end wall, the commune of Siena is represented in the *Council of Good Government*, presided over by an enthroned allegorical figure of Good Government. This mural explains the political theory of early fourteenth-century Siena. The dominant themes are justice and the subordination of individual interests to those of the common good. On the left side is Justice, wearing red and surrounded by personifications of various virtues. She dispenses justice on her left and right sides: one man has a crown placed on his head, while another man loses his head. Present are Peace, Fortitude, Prudence, Magnanimity, and Temperance. Wisdom floats above. Below Justice sits Concord and before her are the twenty-four men of the Council of Siena. In the center of the mural,

Peace reclines in her flowing white gown. On the right, the Commune is shown as an old bearded man, wearing black and white (the colors of Siena), guided by the virtues of Faith, Hope, and Charity floating around his head and identified by inscriptions. Below the Commune of Good Government are the twins Romulus and Remus suckled by a wolf—Siena was proud of her Roman origin. To the right of the twins, knights in armor guard prisoners, thereby protecting the citizens of Siena. A procession of rulers approaches the Commune. Although Ambrogio Lorenzetti uses allegoric and symbolic figures, his message is clear and concrete, specifying which virtues are necessary for good government; Justice and Peace are emphasized. Novel here is the depiction of a secular political theme, on a grand scale, in an era that had yet to separate Church and State.

On the adjoining wall, above the door through which one enters this room, is *Good Government in the City*. Ambrogio Lorenzetti depicts this vast panorama from an elevated vantage point. His architectural landscape is logical in structure and ground plan. This first reappearance of large-scale city- and countryscapes since ancient Roman times is an astonishing conception for the 1330s. A great amount of information is included, actually more than is visible from a single position. The dome and bell tower of Siena are seen in the upper left corner. Between 1330 and 1340, Siena prospered. The city was politically stable, the economy expanded, and art made strides. With good government, construction of new buildings is underway. The city is full of people, all busy and happy. Women literally dance in the spacious street. A convincing illusion of distance, of three-dimensions on a two-dimensional surface is created. Ambrogio Lorenzetti observed and recorded all the activities of a late medieval town, including a cobbler's shop and a teacher with attentive pupils.

Further to the right on this wall, past a high crenelated wall provided by the artist is *Good Government in the Country*. Again, our view is from above. We look down on a vast panorama that seems to unroll like a huge tapestry. The hills surrounding Siena create a convincing sense of depth. The land is recorded in the most productive seasons—spring and summer. The fields are under cultivation in this document of prosperous life. People go about their work. Produce is brought into the city. Nobles on horseback hunt wild boars. In the foreground, men go hawking, a favorite pastime for nobility. In the background, peasants harvest crops, work in pairs as was customary, and till the soil with the aid of oxen and a plow. Security, flying above, says everyone works in peace under Security. And she holds gallows with a hanged man who threatened this security—her message is not subtle.

On the opposite wall, unfortunately now so damaged that portions are not discernible (not shown in our illustration) is the *Council of Bad Government* and a vivid depiction of its effects. Tyranny rules the Council of Bad Government with Avarice, Pride, and Vainglory around his head. His court contains Cruelty, Deceit, Fraudulence, Fury, Discord, and War. Justice is shown in chains at the bottom. The city of Bad Government is portrayed as a place for mugging and rape. Siennese citizens are arrested or killed. The painting of the countryside, although now difficult to discern, shows the least productive seasons—autumn and winter. In this one room, Ambrogio Lorenzetti provided a superb document of urban and suburban medieval life and of medieval political philosophy in Siena.

In conclusion, fresco secco and fresco buono offer perhaps the most significant range of advantages and disadvantages of any medieval painting technique. In the next chapter, the mosaic is seen to be the ideal medium to cover comparably large surface, without the fragility inherent in the fresco medium.

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Mosaic: Sparkling Surfaces

Materials and Methods of Medieval Mosaics

Mosaic may be regarded as a more time-consuming, more expensive, and more permanent variation on fresco buono, discussed in the previous chapter. But the actual process of creating a mosaic is simpler. Instead of painting on wet plaster, as is required for fresco buono, when working in mosaic the artist presses small pieces of colored material into the wet plaster. The small pieces are called *tesserae*, a term derived from the Greek word for “four,” because of the four corners visible on the face of each cube. They may be made of any material including stone, glass, and gold. The final step is to fill the small spaces between the tesserae with wet mortar (grout).

The mosaic technique was already highly developed and used extensively in ancient Roman times, especially as floor pavement. For their tesserae, Roman mosaicists used marble and other types of stone. Although an extremely wide range of colored marbles is available in Italy and elsewhere, the colors in ancient mosaics are limited to those provided by nature.

The walls of Early Christian churches were initially decorated with murals; over time, the murals were replaced with mosaics. During the fourth century colored glass tesserae and even gold tesserae were introduced. Initially, although artists used glass tesserae to make their mosaics, they continued to use the old palette of subdued earth tones. Gradually, the restricted palette was replaced, the range of colors increased, and the richness of effect progressively enhanced. Glass tesserae made possible

an unlimited range of brightly glittering colors. Slabs of glass were made into cubes by breaking the slab with a chisel or by cutting it with a tile cutter. The cubes are usually $3/8$ to $3/4$ inch (1 cm to 1.75 cm) on a side. Alternatively, the tesserae may be made of colored paste, produced by mixing pigment with cement and powdered glass. This technique is used in the Palatine Chapel in Palermo, Sicily, discussed below.

Sparkling effects are achieved on walls and ceilings by intentionally setting the tesserae into the plaster at slightly different angles, thereby allowing them to reflect light from many directions. The shimmering quality may be further enhanced by setting the glass cubes into the plaster with the broken side visible. In contrast, mosaic floors are set with the tesserae forming a flat, smooth, even surface.

Byzantine mosaics were executed on surfaces that were prepared with three layers of plaster. The roughest was applied first, the layers gradually progressing to the smoothest, as is also done when preparing a surface for fresco painting. In Byzantine mosaics, however, the coarsest layer may also include ground straw to maximize the adhesion of the plaster to the wall because the plaster must bear the significant weight of the tesserae.

When a mosaic is examined closely, the artist's placement of the tesserae in accord with the shapes they define is evident. Additionally, the size of the tesserae was varied according to what is depicted; for example, smaller blocks are used for a face than for clothing or background setting. Circular pieces may be used for jewels. In San Vitale, Ravenna, discussed below, Theodora's crown and necklace are made with round pieces of mother-of-pearl.

The extensive use of gold tesserae had two purposes. The first is symbolic: when used in place of a blue sky, gold indicated the presence of God, referred to as "golden light" or "divine light." Gold backgrounds suggest that a scene does not depict a specific time or place on earth, but instead refers to eternity and to God's heaven. The lavishness with which a church was adorned honored God by enriching his house of worship. A second purpose is practical: with limited sunlight entering these early buildings and candles providing the only other source of light, the images are easier to see because gold reflects light.

At San Marco in Venice, discussed below, a tremendous amount of gold is used. Rather than using cubes of solid gold, the same effect was achieved by either applying a thin layer of gold leaf to a glass cube, or placing the gold leaf between two thin pieces of nearly clear glass (all early glass was at least slightly colored). A mock gold known as *mosaic gold* is

made from tin bisulfide, an inexpensive pigment having a high luster. It was used to simulate both gold leaf and powdered gold as early as the thirteenth century.

In keeping with the customary medieval practice in the production of art work, mosaic workshops would have been organized according to a division of tasks. A skilled artist would have created the design, but its execution in mosaic, a long and tedious process, might be turned over to less skilled artisans.

Mosaic, like all artistic media, has its advantages and disadvantages. Among the advantages are that the mosaic medium is especially suitable for use on large-scale architectural surfaces such as ceilings, walls, and floors. Mosaic is very durable and holds up well indoors and outdoors. Mosaic lends itself to simplified generalized forms that are appropriate for large-scale images intended to be seen from a distance. The abstract quality inherent in the mosaic medium is well-suited to medieval artistic styles. The fundamentally decorative quality of the mosaic medium may be intentionally emphasized, using the glittering glass and gold to create sumptuous environments with animated surfaces. Solid walls and ceilings seem transformed into shimmering crystallized surfaces—immaterial, weightless, and insubstantial. The visual splendor created by mosaic makes it an ideal medium to convey the spirituality of the supernatural and other-worldly aspects of religious decoration. Mosaic may be equally effective in enhancing a ruler's image of power and prestige.

Mosaic also has its disadvantages. Because the cubes of colored material are readily visible, the mosaic technique may actually distract the viewer from truly seeing the subject. Images that are realistic and naturalistic are neither characteristic nor possible in mosaic. An artist's choice of mosaic eliminates the possibility of creating a genuinely deceptive image; the lack of realism in mosaic imagery lies not with the mosaic artist but with the mosaic medium.

Masterpieces of Medieval Mosaic

Early Christian artists excelled in creating large-scale interior ornamentation in mosaic. An excellent example of Early Christian mosaic is provided by Santa Costanza in Rome, a mausoleum built c. 350 for Constantine's daughters, Constantia and Helen. The exterior of Santa Costanza is unadorned brick, simple and plain to the point of being drab. Santa Costanza was not intended to be admired from the outside. The interior, however, where rituals were held, is elaborately embellished with

rich materials, textures, colors, and designs. The center of the circular building is covered by a hemispherical dome, supported on a high drum, in which the clerestory windows are constructed. The clerestory illuminates the interior from above, creating a dramatic effect. Twelve pairs of columns support arches that surround the circular ambulatory.

The ceiling above the ambulatory is in the form of a circular barrel (tunnel) vault that is entirely encrusted with mosaics made with glass tesserae. Two of the sections have vine patterns with small scenes along the sides (Color plate 10). Laborers harvest the grapes, put them into carts, and transport the crop to the press where three men stomp the grapes. The same vignettes, similar but not identical, appear on the opposite side of the ambulatory; thus, the story can be followed by a visitor looking in either direction in the ambulatory. Although this had been a common subject on Roman tavern floors, because wine plays a part in the Christian ceremony of the Eucharist, the subject was adopted and adapted in a new context. In this example of the re-use of a pagan subject for Christian needs, what had been secular, on the floor, and under foot, has been raised up above the visitor's head, elevated to the vault, and given a sacred meaning. The many other sections of the ambulatory vault are patterned rather than narrative. Very varied, one includes birds and objects, surely meant to be symbolic. The peacock, for example, was a symbol of immortality: popular belief held that its flesh was so hard that it would never decay. Other sections have perfect geometric patterns, adapted to conform to the curving contour of the circular tunnel vault.

When Christianity became an official state religion, a need for churches arose, and many were built in various areas. In contrast to Santa Costanza's circular floor plan, the most frequently constructed type of Early Christian church, known as the Early Christian basilica, has a longitudinal axis. An example that is intact but was expanded and modified in later years is Santa Maria Maggiore in Rome, originally built c. 432–435, perhaps as early as 400. The exterior of an Early Christian basilica was very plain—hardly the case now at Santa Maria Maggiore because a Baroque church was built around the Early Christian structure.

The interiors of the Early Christian basilicas, as evidenced by the nave of Santa Maria Maggiore, were very elaborate, including patterned marble floors and, especially, mosaics of colored stone, glass, and gold on the walls and ceilings. The mosaics on the nave walls of Santa Maria Maggiore between the clerestory windows and the colonnade were

commissioned by Pope Sixtus III and date to approximately 432–440, the years of his papacy. These mosaics are the earliest extant narratives created by Early Christian artists working in Rome. They were first restored, it is thought, in the ninth century. Of the original forty-two scenes, twenty-seven remain and are still remarkably intact.

Scenes from the Old Testament tell the stories of Abraham, Jacob, Moses, and Joshua, regarded as forerunners of Jesus. Included are the *Journey across the Jordan*, the *Rebellion against Moses*, and in one scene the *Return of the Explorers from Canaan* on top and the *Stoning of Aaron, Joshua, and Caleb* on the bottom, with the hand of God and the invisible shield that protects them depicted by stones bouncing off the shield. There is little evidence of study from life here; for example, in the scene of *Crossing the Red Sea*, heads are piled up on the left. The composition, rather than receding into depth, appears to ascend the picture plane. The water may be blue, but the sky is gold.

As was noted about narrative frescoes in Chapter 2, these narrative mosaic scenes were used for instruction; bible stories and other religious teachings were illustrated as a means of educating an illiterate audience in the Church's beliefs. The intended audience was thoroughly familiar with the stories, having heard them preached repeatedly from the pulpit. Therefore, every detail was not required. For example, in the mosaic of *Melchizedek Offering Bread and Wine to Abraham*, an entire biblical story must be clearly told in a single scene, within a very limited space, using simple terms. Shorthand devices were devised. Thus the "grape cluster" method, noted in murals, was also used in mosaic to indicate a crowd of people. In general, the mosaics of Santa Maria Maggiore show a limited attempt at illusionism, following the classical style of shaded figures conceived in three dimensions. In the *Melchizedek* scene, light and shadow modeling is used on the horses, figures, and the amphora. But while the light is directly from the front, the shadows cast, illogically, to the right. These mosaics are not intended to show our world; instead, this is God's world where shadows may be permitted to defy the laws of Nature. Similarly, as seen in the scene of *Abraham and the Three Angels* (*Vision of Abraham in the Wood of Mambré*), perspective also may defy the laws of optics. The perspective is inverted, the table made smaller in the front than in the back. Yet the classical method of shaded figures is used—unlike later Byzantine mosaics figures that will lose all sense of volume. These Early Christian figures are shown in three-quarter views, whereas Byzantine figures will be shown in profile or full-face views. In scenes such as *Moses Handed over to the Pharaoh's Daughter*, the figures take

varied and natural poses as if they have been caught moving. An illusion of movement imitates life and therefore may be said to show the earthly world rather than God's world. The degree of movement implied by these Early Christian figures will be eliminated in the Byzantine era.

In addition to the Old Testament cycle in the nave, other early fifth-century mosaics survive in Santa Maria Maggiore for there is a New Testament cycle on the triumphal arch. Stories from the infancy of Jesus are arranged in four horizontal bands and told in glittering colors. The figures fill these scenes, their heads bumping the upper borders. The narrative begins in the upper left with the *Annunciation* in which Mary is shown enthroned, surrounded by angels, and elegantly attired in a golden robe. This church was dedicated to Mary at a time when there was great debate in Church politics about the nature of Mary. These scenes were intended to elevate the roles of Jesus and of Mary as the mother of God. Below, the *Adoration of the Magi* is depicted with Jesus shown as a child, enthroned as King of Heaven with a court of angels. In later depictions of this subject, Jesus will be shown as an infant. Throughout the cycle, the story of Jesus's early life is portrayed in a formal manner, whereas later depictions of these subjects emphasize their emotional aspects.

Within the triumphal arch of Santa Maria Maggiore, the apse is also covered with mosaics, but they are later in date, the work of Jacopo Torriti, an artist of the Roman school and a Franciscan friar, active c. 1270–1300. The subject is the *Coronation of Mary* as queen of heaven by her son Jesus; the original Early Christian mosaic in the apse also portrayed Mary's coronation. A charming detail on the far left shows the river, source of all life, a symbol of baptism.

Just below, between the windows, are mosaics that relate the story of the life of Jesus, also by Torriti and dated 1295. The *Annunciation*, on the left, depicts a rather apprehensive Mary as she receives Gabriel's news that she will give birth to Jesus. Unlike the complex depiction on the triumphal arch, this is the traditional representation involving only two figures. On the right, in the scene of the *Nativity*, the newborn Jesus is swaddled and attended by the traditional ox and ass mentioned in Isaiah. Old Joseph sits on the right. The shepherds receive the news in writing, suggesting that they were literate shepherds. The *Adoration of the Magi* depicts these three men kneeling as they offer their gifts to the infant Jesus seated in his mother's lap. This, too, is the traditional way in which this subject is depicted, as opposed to that seen on the triumphal arch. The *Death of Mary* is more accurately called the Dormition of Mary; because she was believed to be without sin, she was said to sleep rather

than to die. The importance of this scene is made clear by placing it out of narrative sequence, instead locating it in the center of the apse, directly below the depiction of the Mary's coronation as queen of heaven.

The city of Ravenna is particularly important for the study of early medieval mosaics. Close in date to the mosaics on the nave walls and the triumphal arch of Santa Maria Maggiore in Rome are those in the tiny Early Christian mausoleum of Galla Placidia in Ravenna, dated c. 424–430. Galla Placidia was the daughter of Emperor Theodosius, who, after Constantine split the Roman Empire by establishing a second capital in Constantinople in 330, further divided the Empire in 395. In 404, his son, Honorius, Galla Placidia's brother, made Ravenna the capital of the Roman Empire of the West, taking this title from Milan. It was Galla Placidia who controlled the Western Empire until it was overrun by barbarian invasions.

This mausoleum was built by Galla Placidia for her husband, her brother, and herself, but it is doubtful that they were actually buried here. Today the building is freestanding but it was originally attached to the Church of Santa Croce (Holy Cross), now gone. It is possible that this little building may have been a chapel dedicated to Saint Lawrence as he is shown in one of the mosaics that ornaments the interior. The mausoleum of Galla Placidia is built in a Greek cross plan with four arms of equal length, as opposed to a Latin cross plan with one arm longer than the others and shaped, therefore, like the cross of Jesus. The drab exterior of Galla Placidia is only minimally ornamented by the relief carving on the stone lintel above the doorway.

The mausoleum interior is not especially light because the natural light is muted, softened, and subdued as it enters through small windows closed by thin slabs of alabaster. At this time glass was not yet used in windows (and the glass that was initially used in windows was colored). But when this intimate interior space was lit by the flickering flames of countless candles, sparkling in the brilliantly-colored mosaics, the effect dazzled. The blue dome above the visitor's head represents the star-studded firmament, which actually does twinkle above, courtesy of the mosaic there. The dome is bordered by a colorful Greek key (fret) pattern, creating a slight sense of dimensionality. Below the dome, the subjects depicted include eight of the twelve apostles in the four lunettes. The huge shells above them symbolize the concept of the resurrection and afterlife, as is appropriate for a mausoleum.

The most famous of the mosaics here is *Jesus the Good Shepherd* (Photo 4.1), c. 425–450, on the west wall. Jesus's flock represents his followers.

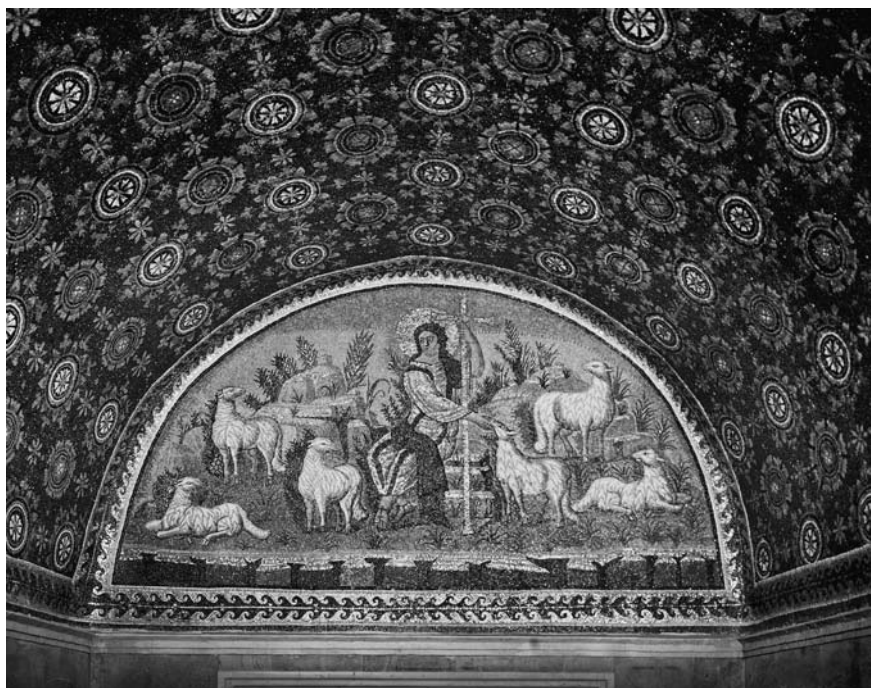


Photo 4.1 *Jesus the Good Shepherd*, c. 425–450, mosaic, Mausoleum of Galla Placidia, Ravenna. Erich Lessing/Art Resource, NY.

Psalm 23 says, “The Lord is my shepherd, ...” and this is given literal visual form. The mood created is lyric, peaceful, and calm. In the mosaic, Jesus is hardly modeled to appear three-dimensional and substantial, but the landscape background that includes plants and rocks displays a degree of naturalism. There are various levels to the background, and the sky is graded in color, as is true in Nature. The sheep take a variety of poses, each one cooperatively adapting his pose to the shape of the semi-circle, and each one turned toward Jesus, making this a closed composition—like a set of parentheses, bracketing the central figure, who is the intended focus. The sheep are shown with long tails—before being bobbed for sanitary reasons.

The same iconographic imagery is seen in the Catacomb of Domitilla in the *Good Shepherd* in which Jesus sits on a rock, surrounded by his flock. In the Catacomb of Callixtus, also in Rome and also third century, a simpler depiction of the *Good Shepherd* shows Jesus standing with a single sheep carried across his shoulders. This appealing image of the shepherd bearing a sheep appears also in sculpture, as seen in several stone statues

from the late third century, which are rare examples of large-scale sculpture from the Early Christian era.

Another of the lunettes in the mausoleum of Galla Placidia contains a portrayal of the *Stags at the Spring*. Based on Psalm 42, "As the hart panteth after the water brooks, so panteth my soul after thee, O God," the stags represent souls. In the lunette at the end of the arm, is a notable depiction of *Saint Lawrence* carrying the cross as he walks toward the fiery gridiron on which he will be roasted. In the fourth lunette, the doves, which represent souls, drink from fountains.

Also in Ravenna, in the midst of the downtown area, is the church of Sant'Apollinare Nuovo. Construction began in the late fifth century, perhaps 490 or around 500, under Theodoric, and was completed prior to the conquest of Ravenna by Justinian in 540. The exterior is simple and unadorned. However, for a vivid contrast, one needs only to enter the nave which is flanked by a single aisle on either side. The Latin cross plan, with its longitudinal axis, automatically leads the visitor's eyes directly to the altar, the focus of the religious ritual performed in this space. The plan is simple and straightforward; the effect is striking. Light enters the nave directly from the clerestory windows above, while windows on the aisle walls permit a more subdued and softer light to filter into the nave.

The Byzantine mosaic decoration in Sant'Apollinare Nuovo remains undoubtedly splendid today. The mosaics on the north and south walls are in three sections. The first is the top tier that depicts scenes from the life of Jesus. The second is the middle tier between the clerestory windows where a series of saints and prophets are depicted. The third is the large continuous space between the clerestory windows and the nave arcade, filled with processions of figures seen against a background of gold.

The scenes on the top tier are small in size and their location high on the wall makes them difficult for the viewer to see clearly when walking through Sant'Apollinare Nuovo. Included here is *Jesus and the Woman at the Well*. While traveling in Samaria, Jesus stopped at Jacob's well, but a Samaritan woman refused to give him water. Jesus spoke to her, telling her of events in her life. Consequently, she, as well as other Samaritans, became followers of Jesus. The water in the well symbolizes the water of life (John 4:4-42). In the *Parable of the Pharisee and the Publican*, Jesus was criticized by the Pharisees for keeping company with sinners. Jesus explained that those who were righteous did not need his help, and that he came to call the sinners to repentance (Mark 2:17). In the *Last Supper*,

Jesus is traditionally depicted in the center of his twelve apostles, although here he is shown on the side. All twelve apostles are included, although one is represented by only his nose. The apostle on the right, separated from the others, may be assumed to be Judas, who was to betray Jesus. The dinner consists of fish and bread. Jesus is shown in the *Road to Calvary*—only in the gospel of John is he said to carry the cross. The scene of the *Marys at the Tomb* usually includes three Marys, although here they have been condensed into two. According to the story, the day after Jesus was buried, the women went to his tomb but found it open and empty. An angel routinely is represented at the sepulchre. In the *Last Judgment*, likely to be depicted at this time by Jesus separating the sheep from the goats, the sheep represent the faithful believers and the goats the non-believers who will be damned (Matthew 25:32–33). One sheep even smiles. In some depictions of this subject, a larger number of sheep than of goats is shown. The sheep are on Jesus's right side, his "good side"—we use the expression to be on someone's "good side." Jesus extends his hand in welcome to the sheep, but not to the goats.

Lower on the north and south walls are processions of female virgins and male martyrs, respectively. These rows of figures appear to be moving toward the altar, just as visitors do on entering the nave. Neatly separated by trees and each holding a wreath, all the figures are very similar, having only slight variations to their costumes and poses. Viewers may be inclined to compare one mosaic figure to the next repeatedly as they look for the subtle differences. The woman identified by the lamb at her feet is Saint Agnes, a Christian martyr of the early fourth century. The names of the martyrs are written above their heads. The figures form a surface pattern; there is little attempt to create a convincing illusion of depth. Rather than being shown in three-quarter views or in varied postures, the figures are almost frontal. Their proportions are elongated with small hands and feet. The facial type seen here is characteristically Byzantine, used for both men and women, with large dark eyes, long thin noses, and small mouths.

The procession of female virgins comes from the city of Ravenna, represented by three ships in the port of Classis. The virgins are following the magi, who follow the star as they come bearing gifts to the newborn Jesus. These elaborately attired magi even wear patterned leggings. The depiction of the *Madonna and Child* seen here will be repeated in much the same way for hundreds of years. Mother and child are both rigidly frontal and both bless the visitor. Jesus, oddly immobile and elongated for a baby, resembles a miniature man. Mary, enthroned, is

presented as queen of heaven; this is not the earthly world, but a golden heavenly realm. The Byzantine facial type guarantees a family resemblance between mother and child. The drapery, in the Byzantine style, is ever more ornamental and abstract, fabric folds forming perfect zigzag patterns unrelated to the figures they clothe.

The procession of male martyrs emerges from the Palace of Theodoric and is led by Saint Martin to Jesus, now shown as an adult, enthroned with an entourage of angels. This depiction of the Palace of Theodoric documents a late fifth- to early sixth-century building that no longer exists. Theodoric (c. 454–526) founded the Ostrogoth kingdom in Italy, was king of the Ostrogoths, and a ruler of Italy from 490 or 493 until his death in 526. The Ostrogoths (East Goths) founded states in Italy, whereas the Visigoths (West Goths) were active in Spain. The tribes of Goths were the most gifted of the barbarian groups. The mosaic previously included figures of Theodoric's attendants in his palace, but they were removed and replaced by drapes, the attendants leaving behind some disembodied hands on the columns. In the background, a city is indicated. The background is gold—here, too, this is not our earthly realm with its blue sky, but God's golden world.

Very similar to Sant'Apollinare Nuovo in basic structure and in the history of Ravenna's mosaic masterpieces, as well as in name, is a second church, Sant'Apollinare in Classe, built outside the city between 533 or 534 and 549. The consecration date of 549 is known, although a church need not be completely finished to be consecrated. Like Sant'Apollinare Nuovo, Sant'Apollinare in Classe is built in a Latin cross plan. This Byzantine exterior of brick, like the exteriors of Early Christian buildings, is plain, unadorned, even drab.

And here, too, the severe exterior forms a contrast to the elegant interior. The extraordinary richness of the interior with its colorful surface patterns creates an other-worldly environment intended to transport worshipers away from their daily cares. The effect is achieved largely by the splendor of the mosaics made of brightly glittering colored glass and stones, as well as the patterned floors, veined marble columns, and objects used in the ritual crafted from precious materials.

In contrast to Sant'Apollinare Nuovo where the mosaic focused on the nave walls, in Sant'Apollinare in Classe the mosaic encrusts the apse and the surrounding triumphal arch. Sheep representing the twelve apostles emerge from the city of Bethlehem on the right side of the arch and from Jerusalem on the left side, and walk upward to Jesus in the center. Jesus, his hand raised in benediction, exhibits the typical Byzantine facial

type. He is flanked by symbols of the four evangelists: the winged man of Matthew, the winged lion of Mark, the winged ox of Luke, and the eagle of John.

In the apse below is the mosaic of the *Transfiguration*, dated to the mid-sixth century or after 560. In this symbolic narrative the twelve sheep above and below again represent the twelve apostles, while the other three sheep represent Peter, James, and John, who were at the foot of the Mount of the Transfiguration where Jesus is said to have appeared. In the clouds are Moses and Elijah. Saint Apollinarius (Apollinaris), for whom this church is named, stands below, his arms in the *orant pose*, the early prayer pose with hands raised to heaven. All this takes place in a brightly colored, glittering landscape with birds, trees, flowers, and grass. The saint and the sheep appear flattened and simplified. Although realism is certainly not the intent in this mosaic, narrative clarity is. Nothing is ambiguous; each figure and its meaning are made very clear.

The Byzantine Emperor Justinian (b. 482), who reigned from 527 until his death in 565, patronized the arts so generously that his reign is referred to as the First Golden Age of Byzantine Art. Constantinople became an artistic capital. In 540 Justinian conquered Ravenna, thereby linking east and west once again. Ravenna, on the east coast of Italy, was strongly tied to the Byzantine empire and considered to be a province of Byzantium. In Ravenna, a city rich in mosaics, the most famous of all are in the church of San Vitale, built 526–547 and consecrated by Archbishop Maximian in 547.

San Vitale is octagonal in plan. A building that is circular in plan, like Santa Costanza, or polygonal, like San Vitale, has no longitudinal axis and therefore is described as having a central plan. The central plan was to become popular at least in part because the dome on such structures makes possible a spacious interior unencumbered by supports. However, a dome tends to attract the visitors' eyes to the area just beneath it, whereas the focus of the religious ritual is at the altar. Thus, there are two competing focal points. In contrast, the longitudinal axis of the Latin cross basilican plan, seen in the two churches of Sant'Apollinare in Ravenna, creates a single focus. But the interior space of the basilican type is interrupted by the rows of columns separating the nave from the aisles. San Vitale has an octagonal core surrounded by an octagonal aisle. An odd feature that has yet to be adequately explained is that the entrance and apse are not directly opposite one another. The dome is constructed from hollow clay pots, one set inside of another, producing

a very lightweight dome that minimizes the problems of lateral thrust created when a dome is constructed of heavy stone masonry.

Once again, in striking contrast to its drab exterior, the interior of San Vitale is opulent in its colorful, elaborate ornament. The lightweight dome made the construction of windows on all levels possible. On the lower two levels the light must filter through the aisles to get to the nave. The aisles are two stories high—women sat in the *matroneum*, an area designated for their use in the upper galleries. Only from high above on the third level does the nave receive direct light, which is therefore the strongest and most dramatic in effect, spotlighting the nave—a fact capitalized on by the mosaicists. The mosaics of San Vitale are considered an especially important accomplishment of the First Golden Age. They cover all the upper portions of the church, although the illusionistic angels on clouds are later additions.

In the apse mosaic of San Vitale, *Jesus in Majesty*, dated before 547, Jesus is seated on the Cosmic Globe. To the sides are angels. On the left is Saint Vitale (Vitalis) himself. On the right is Bishop Ecclesius (Ecclesio) who founded the church of San Vitale and carries a model of the church, not quite accurately depicted yet recognizable by its domed superstructure, to offer to Jesus. The figures stand on an abstraction of grass and flowers and the sky is gold. There is no suggestion of depth—instead, the figures serve as elements in a surface pattern.

A pair of mosaics dated between 525 and 548 portray the *Hospitality of Abraham and the Sacrifice of Isaac* and the *Sacrifice of Abel and Melchizedek*. Although both scenes are set out-of-doors, the space is compressed, crowded, and confused with crinkly cliffs shown according to a characteristically Byzantine method of rendering Nature. The composition curves to conform to the shape of the lunette and the table and altar are tremendously tilted.

Flanking the actual altar is a pair of large mosaics, *Emperor Justinian and his Attendants* (Color plate 11) and the *Empress Theodora and her Attendants*, both dated c. 547, without doubt the most famous of the mosaics at San Vitale. Gathered around the altar, they are shown to be ever-present in church, perpetually pious. Justinian wears Roman imperial robes and a halo, indicating that the Byzantine emperor was considered both king and god. Here he is more a symbol of a divine emperor than a portrait of an earthly individual. Theodora wears a crown as well as a halo which is further emphasized by the architectural niche behind her. In both mosaics there is a deliberate repetition of figures, arranged like a frieze, forming a rhythmic pattern across the surface. There is no

movement and the gestures are stiff, frozen. Frontal views of the figures are preferred over three-quarter views that suggest a degree of three-dimensionality. The unmodeled figures are flattened into the surface of the gold background. All landscape is gone. Although some Byzantine faces appear to be differentiated, these figures are not necessarily intended to be recognizable specific individuals. Instead, everyone looks very much alike, with their big, dark, staring eyes, curved eyebrows, long noses, and small mouths—the typical Byzantine facial type, as noted above. The Byzantine figure type, seen here, is elongated, ethereal, and immaterial, a tall thin physique with small hands and feet. Emphasis is on the clothing rather than on the bodies beneath which are treated as frames for artful arrangements of linear drapery folds. The drapery reveals such minimal information about the body beneath that it would be impossible to determine if these figures have two legs, were it not for the two feet shown below. These people do not appear to stand on a horizontal floor but, instead, to be suspended in air. Perhaps it is good that they are weightless, since they step on one another's toes! An extreme demonstration of the Byzantine lack of concern for realistic or even consistent pictorial space is offered by the doorway on the left. But as this is not meant to be our world, we should not be disturbed by the fact that the top and bottom are seen from two conflicting vantage points: the top is parallel to the picture plane while the bottom is on an oblique angle.

The First Golden Age of Byzantine art came to an end with the Iconoclastic Controversy. In 726, an imperial edict prohibiting religious images was issued. Two opposing factions formed. On one side were the anti-image iconoclasts who interpreted the bible literally when it said "thou shalt make no graven images." Iconoclasts felt that such art was a form of idolatry and that religious art should therefore be restricted to abstract symbols, plants, and animals. A very different position was taken by the iconophiles—those who favored artistic images. Fortunately for the history of mosaics, the iconophiles were to triumph in 843 at the Council of Nicea, ending the Iconoclastic Controversy. A Second Golden Age of Byzantine art ensued, beginning in the late ninth century and continuing until around the year 1200.

The most important church of the Second Golden Age of Byzantine art is San Marco (Saint Mark) in Venice, begun 1063. As a maritime and trading power, Venice was in direct contact with the eastern empire and, like Ravenna, is on the east coast of Italy. San Marco was built to house the tomb of the Evangelist Mark. The original exterior has been modified repeatedly and today many styles combine—Byzantine, Romanesque,

Gothic, and Renaissance, as well as later work—yet the effect is unified and harmonious. The main facade has five doorways, many columns, abundant sculpture, marble veneer, and extensive mosaics. The quantity of ornament, the variety of designs, and range of materials are striking.

Like the mausoleum of Galla Placidia in Ravenna, the plan of San Marco is a Greek cross—the four arms are of equal length forming, essentially, a cross within a square, although much larger and more complex. At Galla Placidia, there was a dome over the crossing. At San Marco, there is a dome over the crossing as well as a dome over each arm. All the domes have windows in the base to let in light.

The interior appears to illustrate the aesthetic belief that if a surface could be decorated, it should be decorated: thou shalt not leave it unadorned. Every surface is ornamented in some way with mosaic and marble, creating a very colorful space. Mosaic cycles embellish the narthex (entrance vestibule), the nave, and transepts of the church, as well as the attached baptistery.

Visitors enter San Marco via the narthex which is covered by three small domes. The most famous of the celebrated mosaics of San Marco, known as the *Creation Dome* or *Genesis Dome* (Photo 4.2), dated around 1200, is here. The biblical account of Genesis is told in a sequence of scenes arranged in three concentric circles. The narrative begins in the innermost circle and moves outward; that is, it starts at the top of the dome and descends through three circles. According to the bible story, God worked for six days to create the earth and rested from his labors on the seventh day. The sequence in which the events take place varies somewhat between the account offered in the first two chapters of Genesis which open with the labors of the first day when God created the heaven and the earth and divided light from darkness, as depicted in the dome mosaic. On the second day God made the heavens and divided the waters, as shown in the next circle of the mosaic. On the third day God separated the water from the land and created grass and trees, depicted literally by the mosaicist. On the fourth day God makes the sun, moon, and stars. This circle includes the fifth day when God created the fish in the sea below and the birds in the sky above. On the sixth day, continuing in the same circle, God creates the animals, shown neatly arranged in pairs. These animals are depicted with impressive fidelity to Nature, in some respects, for artists working in Venice around 1200 are unlikely to have had the opportunity to observe tigers, lions, elephants, or camels directly from life (in spite of the fact that the

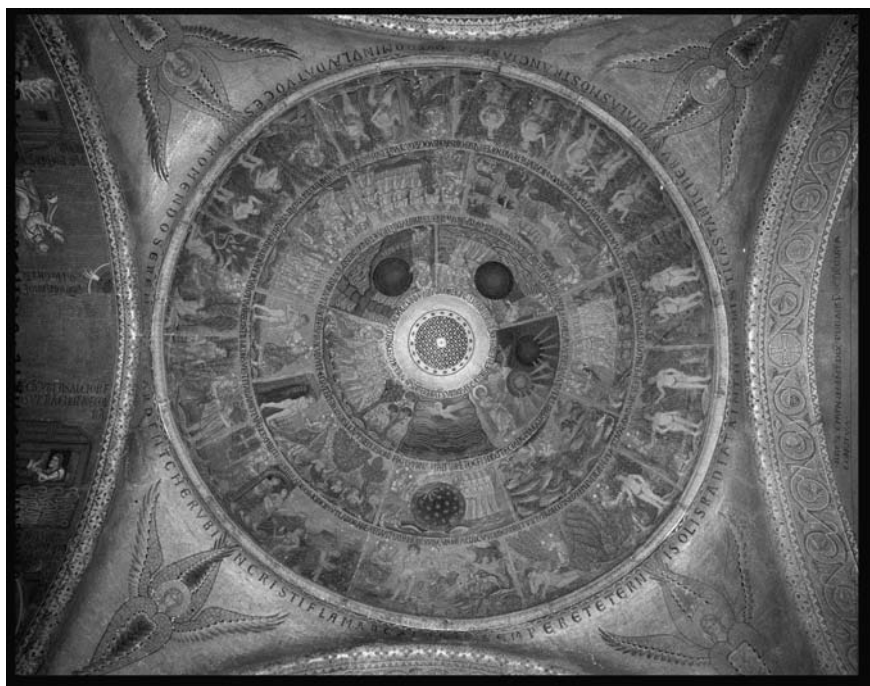


Photo 4.2 *Genesis Dome*, c. 1200, mosaic, San Marco, Venice, narthex. Camera photo Arte Venezia/The Bridgeman Art Library.

Venetians were great Levantine traders). Never mind that both lion and lioness have manes—possession of a mane was the lion’s identifying attribute throughout the Middle Ages. Or that lions are larger than elephants. Or that leopards are no larger than rabbits. And the inclusion of a large sea monster, given center stage, is not to be missed.

On the sixth day God also makes one man, Adam, and one woman, Eve. The story of Adam and Eve occupies a portion of the second circle and the outermost circle. Perhaps of special interest is *God Gives Adam his Soul*. The soul was usually depicted in medieval art as a tiny nude human with wings—an image that derives from ancient Greek art. The soul is shown to go into the body through the mouth at birth and to exit by the same orifice at death. But the mosaicist made Adam’s soul rather large and, given its size, Adam looks appropriately apprehensive as it approaches his mouth.

In the *Creation of Eve*, God plucks at sleeping Adam’s side to draw the woman from his rib. The figures do not look real, nor are they intended to appear so. Instead, they are meant to express the superhuman nature

of the subjects portrayed, as well as to adapt to their purpose as architectural decoration. Therefore, the setting needs only to be symbolic, represented in the simplest manner that will suffice to convey the ideas.

In *God Presents Eve to Adam*, neither looks enthusiastic. Adam seems to point questioningly at Eve. The figures are reduced to formulas and are not based on live models. Instead, the type—stocky bodies with large heads—is adapted from Early Christian manuscripts. To clarify the narrative, aids to understanding such as lettering for the literate and symbols for the illiterate are employed. Emphasis is on design, on decoration, and on the didactic message.

The outermost circle contains the rest of the tale. In *God Shows Adam the Terrestrial Paradise*, God leads Adam by the hand. In *Adam Names the Animals*, all the animals come to him to receive their names, symbolically indicating that humans will dominate the animals. The animals are in pairs, all docile together. Adam begins with the lions, always shown to have pride of place during the Middle Ages because they are symbols of Jesus and have favorable iconographic connotations.

In the rest of the story, clearly related in the mosaic dome, Adam and Eve are given everything they need in the Garden of Eden. The only thing they are denied in this paradise is the forbidden fruit growing on the tree of knowledge. Human nature being what it is, they succumb to temptation and eat the fruit. They are caught by God, the consequence being that, as depicted in *Adam and Eve Expelled*, they must leave the Garden of Eden. Now aware of their nakedness, they have clothed themselves and must walk out the gate of the Garden of Eden. And they must labor; Eve is shown spinning while Adam cultivates the soil.

Also in the narthex, the story of Noah is told in mosaics dated 1200–1210. The birds, some of which are identifiable species, enter the ark in pairs. Noah carefully lifts the peacocks. The rains come for forty days and forty nights and people are shown drowned in the flood waters. The artist depicts Noah sending forth the raven and the dove to fly across the waters. While it is difficult for a painter to depict water realistically, it is impossible for a mosaicist to do so. Portrayed according to the biblical story, the waters recede and Noah, his family, and the animals disembark from the ark; as always, the lions are first. Safe on dry land, Noah plants vines and then drinks the wine produced.

The visitor continues through the narthex to enter the nave of San Marco, similarly celebrated for its mosaics which are Byzantine work of the twelfth and thirteenth centuries, as well as Renaissance work of the

sixteenth century. San Marco offers the visitor an experience in ultimate splendor. The interior dazzles and delights because of the use of mosaics covering every surface including all the vertical walls and the insides of the five domes. The vast interior space is quite dark, originally illuminated only by the many windows in the bases of the five domes and by candle-light. Yet all surfaces glitter in the gloom because they are covered with mosaic. Much of the mosaic at San Marco is made with gold tesserae, which serves to simultaneously enrich the aesthetic effect, embellish God's house, and make the mosaics more readily visible.

Mosaic scenes from the life of Jesus, dated c. 1200, include *Jesus's Entry into Jerusalem* in which children lay their garments in his path and climb trees to have a better view. The meal served in the *Last Supper* is shown to be very simple, consisting only of bread. In *Jesus Washes the Feet of the Apostles*, he demonstrates his humility by this act of purification. The narrative continues with Jesus and the apostles in the garden, known as the *Agony in the Garden*. Jesus appears twice in this scene: praying in the upper left and, occupying most of the space, Jesus as he finds his apostles sleeping.

Continuing to examine the mosaics of San Marco chronologically, that of the *Crucifixion of Jesus* dates to the early thirteenth century. Crucifixion was intended to be a humiliating form of death that was used by the Romans for non-Romans. Jesus is extremely slender, his arms unusually long, as is typical of Byzantine body proportions. The anatomy of his abdomen forms a decorative linear design. In *Jesus's Descent into Limbo*, also referred to as the *Harrowing of Hell* (to "harrow" means to rob in Old English), Jesus descends to hell in order to free souls trapped there. The locks, keys, and chains represent their liberation.

Adjoining the church of San Marco is the baptistery, its interior also covered with mosaics, dated 1342–1354. The baptistery is surmounted by the *Dome of the Apocalypse* with Jesus portrayed in the center of the heavenly hierarchy. Lower on the walls are scenes from the lives of Jesus and John the Baptist, including scenes of the end of the life of each: the *Crucifixion of Jesus* and the *Dance of Salome*, which leads to the beheading of John the Baptist—Salome holds John's head on a platter, above her head. On the soffit (the underside) of an arch are depictions of the four evangelists, *Matthew*, *Mark*, *Luke*, and *John*, which are further examples of the exquisite and expressive Byzantine mosaics of San Marco. No surface is left unadorned.

Medieval mosaic masterpieces are also found in Sicily, an island that has been home to a variety of very different cultures. The Normans

arrived in Sicily in 1061. The Norman Roger I of Hauteville (Altavilla), the Great Count of Sicily, and his brother Robert (called “the Guiscard,” the term for a Norman military commander) took Palermo from the Arabs in 1072. In 1130, the Kingdom of Sicily was created, as Roger I was succeeded by his son, Roger II of Hauteville. A striking Arab-Norman or Sicilian-Norman style of art and architecture, unlike anything anywhere else, was created. The term Arab-Norman actually refers to a diverse combination of styles: Arabic/Moorish, Romanesque or Roman-Sicilian or Latin-Sicilian, and Byzantine-Greek. In the twelfth century, these three styles fused, thereby creating a new hybrid style.

Roger II’s capital was in Palermo, where the Palazzo dei Normanni (Norman Royal Palace) stands. Within this palace is the justly celebrated Cappella Palatina (Palatine Chapel), originally a free-standing structure, now completely surrounded by other buildings. The Palatine Chapel was built for Roger II and is believed to have been begun in 1130, the year of his coronation, or 1132, and consecrated in 1142 or 1143, although construction and decoration are thought to have continued further into the twelfth century. The Palatine Chapel is a basilican church built on the small scale of a chapel—the Palatine Chapel is just over 105 feet (32 meters) long; 41 feet (12.5 meters) wide; 40 feet 9 inches (12.4 meters) high inside; and 59 feet (18 meters) up to the dome.

To reach the Palatine Chapel, visitors must ascend one story. After passing through a simple narthex, an interior space of unprecedented richness awaits. The level of opulent ornament concentrated in this small chapel has never been equaled. Absolutely every inch is covered with decoration of some sort; no area remains unadorned, including the twelfth-century *muqarnas* stalactite nave ceiling. Although the windows are small and the interior quite dark, the mosaics glitter. With their gold backgrounds, these mosaics create a powerful atmosphere. According to the Greek inscription in the dome, the first mosaics date to 1143 but work stopped, to be resumed in the 1150s, 1160s, and 1170s in the nave. The style of these mosaics is Eastern in inspiration—that of Byzantium in the tenth and eleventh centuries.

The highpoint of the entire scheme in the Palatine Chapel, literally and figuratively, is the dome containing the image of *Christ Pantokrator*, that is, omnipotent. He gives a benediction with his right hand and holds a closed book with his left. The cross appears on the book cover and on his halo. Jesus is surrounded by the four archangels Gabriel, Michael, Raphael, and Uriel, each carrying a staff in the right hand and a globe with a cross in the left hand, and by four angels, each carrying a pilgrim’s

staff. The twelve Apostles are depicted here and the four Evangelists are seen on the *pendentives* (the four spherical triangles that make a transition between the square base and the circular dome). The circular inscription from Isaiah, written in Greek, translates, "Heaven is my throne, and the earth my footstool, says Christ the Lord Omnipotent."

The images of Jesus in the semi-circular apse vault and on the wall in the lesser apse on the right side are very similar. In the apse vault, Jesus makes a blessing gesture in the Byzantine manner and holds the Gospel in which it says in Greek and Latin, "I am the light of the world: he that follows me shall not walk in darkness, but shall have the light of life" (John 8:12). A large window here, now gone, emphasized the link between Jesus and light.

The scenes in the chancel were intended for the benefit of the clergy. Therefore, scenes from the life of Jesus are not placed in chronological order, but instead are arranged according to which ones were deemed most important. The scenes are not as clearly divided one from the next as they are in the frescoes at Sant'Angelo in Formis or the Saint Francis cycle in San Francesco in Assisi (see Chapter 3), yet the compositions in the Palatine Chapel indicate where one scene ends and the next begins. The *Nativity* actually curves around the corner of the chapel, the composition disregarding the shape of the surface. The Latin lettering above this scene translates, "The star begets the sun, the rose begets the flower, form begets beauty." The scene includes the three magi on the road to Bethlehem and then again when they have arrived, offering gifts. The shepherds are also present—two above and one below—as are their sheep for there is to be no confusion as to who is who. One sheep is being milked, surely an activity familiar to the intended audience of this religious subject. Like the magi, Jesus also appears twice in this scene—swaddled in his crib above, and being bathed by midwives below. Mary embraces her infant, watched over by the ox and ass.

In the scene of *Joseph's Dream*, an angel comes to Joseph and, according to Matthew 2:13, tells him to take Jesus and Mary into Egypt because Herod intends to massacre the innocent children. The next scene is the *Flight into Egypt* in which Mary rides a white donkey, side-saddle, as was customary for twelfth-century women. Joseph, white-haired to indicate his age, carries Jesus on his shoulders. Charming details are the squirming infant, and the way in which Joseph holds onto Jesus's leg and Jesus holds Joseph's hair, each clinging to the other. Besides this, there is little in the way of realism, for the boy behind the donkey floats and the trees are identifiable only occasionally—as the palms.

In the *Baptism of Jesus* by John the Baptist, Jesus is shown up to his shoulders in the River Jordan, yet his entire body is visible through the spaghetti-like water—the mosaicist's response to the challenge of depicting water with tesserae. The nude, although frequently depicted prior to the Middle Ages in Greek and Roman antiquity as well as after the Middle Ages in the Renaissance, was shown in medieval art only when absolutely required by the narrative, as is the case here and in the narratives of Adam and Eve. The Holy Spirit in the form of a dove hovers above Jesus. John the Baptist wears his characteristic sheepskin. Angels, unusually accommodating for a baptism scene, offer their fancy patterned red and blue towels.

The *Transfiguration*, placed in the center of the wall, is symmetrical and striking. Jesus stands on Mount Tabor, rays of light extending from his body to the Apostles who witness this miracle.

The *Resurrection of Lazarus* includes Lazarus's sisters Mary and Martha kneeling at Jesus's feet. The man closest to Lazarus covers his nose with his hand in a realistic response to a decomposing corpse four days after death. But the backgrounds and settings in these scenes have little to do with realistic depiction of Nature; the blue sky is replaced by an impenetrable gold surface.

In *Jesus's Entry into Jerusalem*, he also rides his donkey sidesaddle, if not actually on the side of the donkey; viewers may wonder what keeps him on the donkey at all. And nothing seems to keep the donkey earthbound for the animal appears to float rather than to walk on the ground. Jesus is followed by his disciples. To Jesus's left is Peter, who gestures toward the city of Jerusalem. People have come out to greet Jesus, including children who wave olive branches and spread their garments on the ground before him.

The mosaics in the nave, which postdate those in the dome and chancel, were likewise intended to instruct the faithful. They illustrate Old Testament tales and are accompanied by Latin inscriptions. The nave mosaics begin with the story of Genesis on the south/right wall toward the chancel end. The scenes are arranged in a descending spiral: the viewer follows the sequence by continually moving to the right, although skipping over the back wall at one end and over the chancel arch at the other, much as Giotto was to do later in the Arena Chapel (discussed in Chapter 3).

As in the *Creation Dome* in San Marco, Venice, just discussed, the story begins with God's first day of work, the *Creation of Light and Darkness*. On the second day, *God Creates the Earth and the Water*, separated into

land and sea. The Latin lettering says, "Let there be an expanse between the waters to separate water from water." The three land masses shown are the continents known then—Europe, Asia, and Africa, with Europe located in the center. The seas, representing the Mediterranean, the Hellespont, and the Red Sea, form the shape of the letter Y. The surrounding circle is the sky, as yet without stars. In the mosaic of *God Creates the Trees and Plants*, he continues his labors on the third day. In *God Creates the Heavens*, his labors of the fourth day are shown with the sun, moon, and stars clearly indicated, although the artist made the sun and the moon the same size. For the fifth day, the mosaic depicts *God Creates the Fish, Reptiles, and Birds*. Some distinctions are made between types of birds, but there is little evidence of study from life in the twelfth century. The scene for the sixth day, *God Creates the Land Animals*, includes both wild animals and domesticated mammals. Eight kinds of animals are shown in pairs, although evidently God has not yet created gravity, as the upper pairs float. As was customary, the lions come first. *God Creates Adam* includes his name written beside his head. The Latin words translate, "And God created man in his own image," and Adam does resemble God, without the halo and clothes. God seems to blow Adam's soul into him. Finally, on the seventh day, *God Rests*, comfortable on a cushioned throne with a footstool.

The story continues in *God Shows Adam the Tree of Knowledge*. God tells Adam of good and evil, and that he may eat the fruit of every tree in the Garden of Eden, except this one—yet this is the only tree in the garden laden with sixteen pieces of luscious ripe fruit, within easy reach! Thus, from the time of Adam, the choice that is forbidden is the one that is most appealing.

In *God Creates Eve*, while Adam sleeps, Eve emerges from his side. The story requires the artist to depict a male and female nude. As these mosaics make obvious, a twelfth-century artist did not work directly from live models; to do so was forbidden by the Church. Instead, the human body, like all else, served as the inspiration for an abstracted linear pattern.

To follow the story the visitor must now look at the other side of the chapel. The scene of *Original Sin* in the Garden of Eden shows the snake approaching Eve and both Adam and Eve eat the fruit. This scene conflates two narrative episodes: the temptation of Eve and Eve tempting Adam. Now only fourteen fruits remain on the tree—the math is correct. In the next scene, *Adam and Eve in Shame*, the mosaicist depicted them rebuked by God. Adam gestures to Eve, passing the blame to her; Eve, in turn, points to the serpent, implicating the snake in the grass.

Neither Adam nor Eve takes responsibility for his or her own actions. Adam and Eve are now aware of, and embarrassed by, their nakedness, and cover themselves with leaves. Their paradise is lost; thus, as in the mosaic *Adam and Eve Expelled from Eden*, they are ushered out by an angel. They wear unisex garments made from animal skins and worried facial expressions. Eve's long hair is tied back with white bands. The mosaics portray *Adam and Eve Laboring*. Adam tills the earth and Eve's sad expression is notable as a rare example of facial expressions in art at this time.

The narrative continues with the *Sacrifices of Cain and Abel*. God is pleased with Abel's offer but not with Cain's, angering Cain. After this, the following mosaic scenes on the nave walls in the Palatine Chapel cycle are eighteenth-century restoration work by Santi Cardini.

On the back wall of the Palatine Chapel is the throne of the king of Sicily, inlaid with mosaic and porphyry in symmetric geometric patterns. Because the House of Aragon was in power when the mosaic was restored between 1460 and 1473 and the throne was erected, the coat of arms of King John of Aragon is prominent in the center of the lower wall. On the wall above is a depiction of Jesus enthroned, flanked at halo level by two half-length archangels—Michael, representing death, and Gabriel, representing birth—and flanked just below by the apostles Peter representing Judaism, and Paul representing Christianity, the founders of the Church. Peter is depicted routinely as white-haired and holding the keys to the kingdom of heaven, and Paul is customarily shown as dark-haired, bearded and balding, holding his epistles. The two flanking lions represent sovereignty, strength, and royalty. Between the lions are eleven peacocks representing the perpetuation of the grandeur of the Normans. Peacocks, as mentioned above, are also a Christian symbol for immortality. In the Palatine Chapel, political and religious symbolism merge, implying that the power of Sicilian royalty derives from Jesus.

Not far from Palermo is the city of Monreale, whose cathedral was built by the grandson of Roger II, William II (1153–1189), the third and last of the great Norman kings of Sicily. William II, known as “The Good,” and other Norman leaders in Sicily were inclusive and welcoming to the various groups of peoples living on the island, to the benefit of the art and architecture produced there.

A “pious legend” explains why William II built Monreale Cathedral. The story goes that the twenty-year-old William was out hunting when, overcome with fatigue, he slept. Mary appeared to him in a dream and told him to build a church, using the money that his father, William I, known as “the Bad,” had stolen from the state. Mary showed him where this

treasure was hidden; William II unearthed it and used the funds to construct a cathedral, which is dedicated to Mary. Work began perhaps as early as 1172, definitely by 1174, and evidently proceeded very rapidly because monks were living there by 1176. However, at William II's death in 1189, the Cathedral was far from finished and was not consecrated until 1267. The facade has a broad and massive appearance. But Monreale Cathedral is most striking when seen from the back; the apse end offers a picturesque twelfth-century composition created by combining various sources. To a basically Norman Romanesque Latin cross church plan, a great quantity of Arab/Moorish decoration of intersecting blind arches forming nonstructural surface ornament has been applied.

The remarkable impact of the interior of Monreale Cathedral is due especially to the walls covered with gold and glass mosaics. In fact, this cathedral boasts the most extensive mosaic scenes in all of Italy. The mosaics of Monreale Cathedral are the work of Byzantine artists, perhaps from Venice, and of local Sicilian artists working in the Byzantine style.

On entering the nave, directly before the visitor is the huge image of *Christ Pantokrator* in the apse, dominating all else. Jesus blesses with his right hand, in the Greek manner, and in his left holds a gospel book open to the Latin words for "I am the light of the world. Whoever follows me shall never walk in darkness." Directly below, Mary is enthroned with the infant Jesus on her lap. Here the Greek inscription translates, "Mother of Christ," and "All pure." Mary and her son are flanked by two archangels and the apostles. Lower on the apse wall and extending out from it are fourteen saints. Thus, the figures are positioned in a vertical hierarchical order.

Under the triumphal arch, in the chancel, a mosaic depicts William II offering a model of Monreale Cathedral to Mary, although the model is far from accurate. The patron has had himself depicted in the act of donating the building he sponsored, within that building. Such imagery is found elsewhere, as was noted of Bishop Ecclesius who is depicted in a sixth-century mosaic offering a model of the church of San Vitale to Jesus in this church in Ravenna. In the royal abbey of Saint-Denis, Abbot Suger had himself shown kneeling and offering a stained glass window to Mary within this same window, dated just before the mid-twelfth century. On the entrance wall of the Arena Chapel in Padua, also known as the Scrovegni Chapel, Giotto's early fourteenth-century painting portrays Enrico Scrovegni offering a model of this chapel to Jesus. But in Monreale Cathedral, William II, hardly humble, went so far as to have himself

portrayed above the king's throne, being crowned by Jesus. This endorsement of William II's authority by Jesus ranks among the ultimate assertions of ego! And William II was thorough, for in the cloister beside Monreale Cathedral the same subject is carved on a stone capital. Current conceptions of the Middle Ages as an era of personal anonymity and humility may be exaggerated.

As in the Palatine Chapel, Old Testament stories are told in mosaic in the nave of Monreale Cathedral. Not only the subjects, but also their arrangements, are essentially the same, for the narrative begins at the crossing on the right/south wall and is followed by looking always to the right, across the entrance wall, and onto the left/north wall, requiring the visitor to turn around twice to see the forty-two scenes on two tiers.

Particularly noteworthy from the story of Genesis is the mosaic *God Creates the Birds and Fish* because it includes identifiable peacocks, pheasants, skylarks, and owls—a rare example of careful observation of Nature for this time. The rest of the scene, with its bluish cliff, is more typical of twelfth-century fanciful generic representations of Nature copied from the work of other artists and from model books.

Similarly, the mosaic *God Creates the Animals* includes readily identifiable lions, horses, donkeys, goats, camels, elephants, and cows. However, God seems to have made the floating animals before he devised gravity. Below, *God Creates Adam* portrays Adam being given his soul, indicated by the rays traveling from God to Adam. By comparison, the Monreale figures are somewhat more realistic and expressive than those in the Palatine Chapel.

Later in the narrative in *Adam and Eve in the Garden of Eden* they are portrayed taking fruit from a tree. The Tree of Knowledge is shown to be a different species, yet the plants portrayed here remain unidentifiable to the best of botanists. Eve holds one of the many little fruits up to her mouth, as if ready to take a bite, as the serpent approaches. In the center of the scene, exactly in front of the tree, Adam and Eve hold a piece of fruit together, creating a nearly bilaterally symmetrical pattern. The segmented human bodies are no more realistically rendered than is the setting.

In the next mosaic, *God Sees Eve and Adam*, they now cover themselves for, having eaten the forbidden fruit, they are ashamed of their naked bodies. As in the Palatine Chapel, Adam gestures to Eve, and Eve gestures to the serpent—shown as a snake in the acanthus bushes.

After their expulsion from the Garden of Eden, in the mosaic *Adam and Eve Labor*, Adam works the land with a hoe and Eve spins. They

appear tired and sad, their emotions conveyed by the expressions on their faces and the postures of their bodies.

The narrative continues with the story of Noah, who, as instructed by God in preparation for the flood, builds the ark. Carpenters are shown using saws and hammers, providing a document of wood-working methods of the time. This ark looks very different from the one painted on the vault of Saint-Savin-sur-Gartempe (Color plate 7), which is perhaps surprising in view of the specificity of the description of the ark offered by the bible. After the flood waters recede, the ark comes to rest on land. In the scene *Animals Disembark*, the lion, with his tail between his legs, appears frightened and requires a small shove from Noah. The ram looks back, as if reluctant to leave the ark.

Safe on dry land, after planting grape vines and harvesting his crop, a mosaic shows *Noah Makes Wine*. The grape vine is rendered with impressive accuracy, especially when compared with the other plants. *Noah's Drunkenness* displays Noah semi-clothed. He is found in this condition by his sons; while one points, the other two cover their father's body.

In the *Tower of Babel*, the descendants of Noah make a futile effort to build to the heavens. Like the building of the ark, that of the tower of Babel documents twelfth-century construction methods. Included are a man mixing mortar; a wooden ladder and wooden scaffolding, use of a hod over the shoulder, an axe to cut stones, and a hammer to do the finer shaping.

In the mosaic scene *God Tests Abraham*, God commands him to kill his son Isaac. The boy's arms are bound behind his back and Abraham is about to slit his throat. Isaac looks directly at the knife, now very close. At the last instant, as is traditionally depicted, an angel stops Abraham. The drapery conventions are typically Romanesque with the fabric suspended in air, gravity-defying folds, perfectly pressed pleats, and zigzag hemlines. The same was noted to be characteristic of contemporary fresco (Chapter 3).

To better relate the stories, many iconographic symbols are included, which the intended audience surely understood. The congregation, although almost entirely illiterate, had been repeatedly instructed in the symbolism of animals, objects, shapes, numbers, colors, and much more from the pulpit.

The story of Jesus that began in the transepts of Monreale Cathedral continues in the aisles. Here are depictions of the works of Jesus, including some of his miracles. In each of the scenes of healing, the specific

affliction is depicted with notable fidelity to fact. Of special interest are the scenes of *Jesus Healing the Man Suffering from Dropsy* and *Jesus Healing the Lepers*. The enlarged abdomen of the man with dropsy probably indicates hepatic cirrhosis while the sores on the lepers' skin are clearly shown as is the fact that they had been isolated from society but, now healed, they emerge through the open door.

Miniature Mosaic

Mosaic is typically used for large-scale work on walls, ceilings, and floors. Characteristic of the medium is the visibility of the tesserae. However, *miniature mosaic* employs the same method on a greatly reduced scale, thereby creating the appearance of a painting rather than a mosaic. Miniature tesserae are called *tessellae* (singular *tessella*). How very small tesserae might be made is demonstrated by an *Annunciation* (Color plate 12), a Byzantine work of c. 1310–1320. The tessellae are of gold, silver, lapis lazuli, and other semi-precious stones set into wax on a wooden panel. Unlike a mosaic created as a permanent architectural installation on a wall, ceiling, or floor, this miniature mosaic on a panel was intended to be portable.

Mosaic conventions from centuries past that emphasize clarity of narrative over naturalism and illusion are perpetuated here. Mary turns her head in response to Gabriel's message, her pose making both her comprehension and her apprehension evident. The compact composition entirely fills the space available. Miniature mosaics are very rare and were likely to have been made under the Palaeologan emperors Michael VII (1261–1282) and Andronicus II (1282–1328).

Cennino Cennini, mentioned above, writing in the late fourteenth or early fifteenth century, described other types of miniature mosaic materials. He explains that a mosaic may be made of quill cuttings that are cut up into small pieces and stained. He also says a mosaic may be made of painted egg shells. He further suggests using "leaves of gilded or silvered paper, or thick gold or silver foil ... cut up very small" and positioned with tweezers as a means of making a miniature mosaic.

In conclusion, whether created on a large or small scale, these magnificent medieval mosaics, often executed in a superficially naive style, are in fact highly sophisticated and effective religious narratives. The following chapter is concerned with work in ivory, invariably small in scale and requiring a careful carver with a sure hand.

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Ivory Carving: Elephant and Walrus Tusk

Materials and Methods of Medieval Ivory Carvings

Ivory, strictly speaking, is elephant tusk, intended for use by elephants for their defense. It is dentine, a vascular calcareous material containing calcium phosphate, magnesium phosphate, and calcium carbonate. (Human teeth are formed from the same substance.) A tusk grows from the inside out, much the same as does a hair. At the center is the nerve canal. Surrounding this is a pulp cavity that is too soft to use for sculpture. Outside the pulp is the fine-grained portion of the tusk that is suitable for carving. The outermost and oldest part of a tusk is the husk, or bark, which is too hard to carve. Because the portion between the pulp cavity and the husk constitutes less than 60 percent of the entire tusk, much of the tusk cannot be used for artistic carving. The tusks of different species of elephants vary in color and texture. Those of Indian elephants tend to be quite white and opaque, whereas those of African elephants are more translucent and the concentric rings in the ivory are more visible. The ivory must be dense and smooth if detailed carving is to be done.

Ivory has been appreciated from the earliest times. The Greek fifth-century BCE sculptor Phidias is said to have made an ivory and gold statue of Athena for the Parthenon in Athens, as well as many other ivory statues. Pliny the Elder (d. 79 CE) said of elephants, "Their teeth are very highly prized, and from them we obtain the most costly

materials for forming the statues of the gods.” Although Greek and Roman sculptors used elephant ivory, the elephant was not native to these sculptors’ environments. The ancient authors Pausanias, Athenaeus, and Strabo say ivory was imported from India, Ethiopia, Libya, and Ceylon (now known as Sri Lanka). The transport of elephant ivory over long distances increased its expense; the cost of ivory, combined with its rarity, enhanced its reputation as a precious artistic medium. However, elephants were imported to Western Europe for reasons other than an appreciation of their tusks. The disappearance of the North African elephant by the fourth century CE is thought to be due to the large number shipped to Rome and slaughtered in the games held in the Coliseum.

Ivory was also acquired through military conquest: a defeated people might be required to pay tribute in the form of mandatory gifts including gold, silver, and ivory. An emperor is shown receiving an elephant tusk from a conquered barbarian on a leaf of an imperial diptych that was made in Constantinople during the first half of the sixth century (Musée du Louvre, Paris).

Tusks and even bones of animals other than elephants were used as ivory for fine carving and were called ivory. Bone, like elephant tusk, may be highly polished. However, the structure of bone is different from that of elephant tusk. Due to its calcium phosphate content, bone has a spongy quality. Bone is more brittle than ivory when carved. Although bone was used during the Middle Ages even in areas where ivory was available, bone was considered a less luxurious material.

Whalebone, in particular, was frequently carved. The Basques of northern Spain had a major whaling industry by the twelfth century. Whales stranded on beaches along the northern European coastline were also a source of whalebone. Additionally, walrus tusk was used for carving, especially in the north—England, northern France, and the Rhineland. Throughout the Romanesque period, most ivories were not elephant ivory, but walrus. Little is known about whale and walrus hunting, selling, and trading. However, it is known that during the Middle Ages walrus herds came further south than they do today and were also more numerous; a great many were killed during the Middle Ages. Narwhal tusk was also carved, as were the bones of cows and horses, and even antlers were used by sculptors. The color of these materials might be modified by the application of stain.

Restricted by the size of the tusk, bone, or antler, ivory carving focuses on small-scale objects carved with exquisite care. The importance of craftsmanship, highly valued in artistic work created in all media

throughout the Middle Ages, cannot be overrated. Medieval art includes a pronounced appreciation for minutely crafted forms, what may be called an aesthetic cult of art simultaneously complex in iconography, yet rendered extremely small in scale. The ivory objects discussed below were produced in studios, making it possible to attempt to group works together on a stylistic basis. Medieval ivories exhibit significant variation in quality, from mediocre to masterful.

Theophilus, in his previously discussed *De diversis artibus* (*On Diverse Arts*), Book 3, Chapter 93, focuses on ivory carving only briefly, presumably because his expertise lay elsewhere. Theophilus instructs his reader to begin by shaping the ivory to the required size. Then apply chalk and draw on the ivory with a piece of lead. To make the lines visible, mark them with a tool. Cut away the ground using "various tools." If the piece is to be gilded, apply fish glue made from the bladder of a sturgeon, and then the sections of gold leaf.

In Chapter 94, Theophilus explains how to stain bone from an elephant, fish, or stag using the root of the madder plant. The root is dried in the sun and then pounded. Lye is applied next. The root is subsequently boiled in a pot, producing a red dye. Red madder was used during the Middle Ages as a dye for the wool and silk from which tapestries and clothing were manufactured.

Ivory was carved throughout the Middle Ages. Fewer ivory carvings remain from the late twelfth through mid-thirteenth century than might be expected, the result certainly of loss, but it is thought that there were probably not a great many ivories to begin with. This may have been due in part to a lack of ivory; elephant ivory was difficult to obtain and much of the walrus population had been eliminated. Perhaps more responsible for the diminished numbers was a change in fashion. Monumental sculpture made major strides during this period, the result being that sculptors, and their patrons, turned away from small-scale work in ivory. In the late thirteenth century there was a return to ivory carving, which became an important industry in the Ile-de-France (the area around Paris). For the most part, production consisted of small items for private devotion, as opposed to larger objects used in church ceremonies. Statuettes of Mary and Jesus became popular as did little diptychs and triptychs with scenes of Mary and Jesus. During the fourteenth century, there was important commerce in ivory carvings through Atlantic and Mediterranean ports. Manufacture of ivory objects, religious and secular, proliferated and northern France, especially Paris, dominated ivory production. Ivory carving reached a peak in France

during the Gothic era, especially the fourteenth century, when ivories were likely to be embellished with paint and gilding. Courtly French elegance, grace, and love of luxury and precious materials served as a source of inspiration for artists working in other locations. In the fifteenth century, as the Middle Ages came to a close, the number of ivory pieces decreased.

The relation between artistic production, not only in ivory but in all medieval arts, and the Cult of the Virgin Mary deserves mention. Attracting progressively more followers, the Cult of the Virgin was active during the twelfth century, especially popular in the thirteenth, and by the fourteenth century Mary had ascended in importance in the religious hierarchy, so that she was often shown being crowned queen of heaven by Jesus and given comparable status. The Hours of the Virgin were recited daily. Literature featured Mary's virtues and her symbolic roles. Many churches and cathedrals were dedicated to her. People appealed to Mary for help, calling her the Madonna of Mercy. All levels of society participated in the Cult of the Virgin. Artists created countless images of Mary, commissioned by those who could just afford a humble work to those who could pay for a masterpiece in ivory or even gold.

Ivory, like all other materials used by medieval artists, offers advantages and disadvantages. Positive qualities include the innate visual and tactile appeal of ivory. A range of subtle beige and cream colors occur naturally. Elephant ivory is a dense material that is carved with relative ease. Due to its collagen content, ivory has a smooth texture and a natural sheen, its oiliness permitting it to be highly polished. It is suitable for use in creating a variety of small objects, including plaques, diptychs, triptychs, booklets, holy water buckets, oliphants, crosses, croziers, figurines, mirror cases, caskets, combs, and game pieces. Ivory is especially suitable for small portable items intended for an individual's private devotions, the diminutive size inviting close scrutiny of the subject depicted, thereby aiding personal contemplation and reflection. Although other substances were used as substitutes, elephant ivory was praised and prized above all during the Middle Ages. Elephant ivory was consistently regarded as the paradigm and was used only for important carvings. It was not wasted; small pieces were used to inlay furniture, although bone was often used for furniture, too.

Perhaps the most significant disadvantages of elephant ivory for the medieval sculptor were that it was both expensive and difficult to obtain. Sculptures carved of ivory are limited in size to the dimensions of the tusks; a larger work must be compiled of separate sections, usually in

the form of plaques. The curving shape of the tusk must be taken into account and may constrain the artist's creativity. To cut through the grain of the tusk, the sculptor's carving tools must be kept extremely sharp. Ivory is not a particularly permanent medium; it is affected by humidity and quickly absorbs moisture, salts, and other substances from its environment. The pale color of ivory may darken or become yellowish or brownish in time; ivory is prone to stains—much like our teeth. Ivory tends to warp gradually over time and is likely to crack if allowed to become too dry in an unfavorable environment.

Masterpieces of Medieval Ivory Carvings

Ivory carving achieved a high level of technical expertise during the Carolingian era, as evidenced by the ivory plaque set in the cover of *Dagulf's Psalter*, a manuscript of 783–795 (Musée du Louvre, Paris). According to the dedication poem by Dagulf, this psalter was commissioned by Charlemagne as a gift for Pope Hadrian I (772–795). Charlemagne's association with the papacy reached its zenith when he had himself crowned Emperor on Christmas Day in 800 by Pope Leo III in Rome. Typical of Carolingian ivories, the scenes are crowded and the many figures with stocky proportions are composed of rounded shapes. The subjects depicted have to do with King David, seen with his harp in the lower right. Charlemagne created a cultural renaissance by bringing the most educated people of Europe together in his court, by patronizing the arts, and by encouraging artists to copy ancient Roman models in their ivories, manuscripts, and architecture.

Saint John the Evangelist (Photo 5.1), an early ninth-century elephant ivory plaque, is a product of the Court School of Charlemagne, based in the workshops he sponsored in his capital city of Aachen. In the corners the holes used to affix this plaque to a support are visible. John is seated and holds his gospel with the opening lines that translate, "In the beginning was the Word" (John 1:1). John's symbol, the eagle, is above. Some concern for natural setting and forms is seen. John sits within a semicircular arch supported on Corinthian columns. The sturdy figure's rounded limbs are seen through the garment, showing the influence of the classical style. John's ancient pallium and mantle are connected with the Carolingian renaissance initiated by Charlemagne, although here the fabric is embellished by elaborate pleats and folds having swirls and eddies usually reserved for fluid substances. The forms are both elaborate and distinct. This ivory may be compared to contemporary



Photo 5.1 *Saint John the Evangelist*, plaque, Carolingian, Aachen, Court School of Charlemagne, early ninth century, elephant ivory, $7\frac{1}{2} \times 3\frac{5}{8}$ in. (19.1×9.2 cm.). The Metropolitan Museum of Art, The Cloisters Collection, New York, 1977 (1977.421). Image © The Metropolitan Museum of Art.

manuscript illumination, for the same compositional format appears in both media. Various groups of Carolingian artists worked together, such as the Court School of manuscript illumination, also known as the Ada Group, and the Palace School. A group of artists might produce both ivories and manuscripts.

An unusual image of Mary is seen on another Carolingian ivory plaque that portrays *Mary Enthroned*, from the early ninth century (Metropolitan Museum of Art, New York). Mary is shown frontal, full face, knees apart, and arms wide in an aggressive and defiant pose. She looks much like a Roman soldier in armor. On the corners are peacocks, a symbol of immortality.

More conventional is the portrayal of *Mary* on another fine Carolingian ivory plaque from the Court School of Charlemagne, c. 810, on the front cover of the *Lorsch Gospels*, from Lorsch Abbey (the front cover is in the Victoria and Albert Museum, London; the back cover is in the Vatican, Rome). On this especially large and sumptuous book cover, the ivory carving shows the influence of the antique past as well as of the eastern Byzantine tradition. Mary and the infant Jesus are in the center. On the left, John the Baptist holds a scroll as he points to Mary, illustrating John I: 29, "Behold the lamb of God, which taketh away the sin of the world." On the right, Zacharias holds a censer and an incense box. This may derive from Zacharias's prophecy in Luke I: 78–79, "The dayspring from on high hath visited us, to give light to them that sit in darkness and in the shadow of death." Above is a medallion of Jesus giving benediction, held by two angels. Below are the nativity and annunciation to the shepherds. The predilection for pattern is seen in the depiction of architecture and the treatment of the drapery with excessively complex folds impossible to achieve in actual garments. Fabric is made to perform gravity-defying feats as seen, for example, on John's right thigh. The arcades are not used to create an illusion of space, but to form a pattern across the surface. Parts of this ivory appear to have been re-cut at different times, although exactly when and why this was done remains uncertain.

Ivory plaques were used on book covers in combination with other materials such as mountings of silver, with filigree and jewels, supported on a wood core. Willingness to combine various media to create a work of art is a characteristic of the medieval working method, not only when an object was created initially but also when it was reused at a later date. The result may be a composite work in which the individual elements were made of different materials, in different geographic areas, and at different times, yet are aesthetically harmonious.

Regional schools of art developed during the Carolingian era, especially at Metz, Tours, and Reims, under the successors of Charlemagne: Louis the Pious (d. 840), Lothair I (d. 855), and Charles the Bald (d. 877). For example, an ivory carver from the school of Metz portrayed the events of *Jesus on the Road to Emmaus* and the *Supper at Emmaus* on a horizontal rectangular Carolingian ivory plaque from a casket, c. 870 (The Cloisters, New York). On the left, Jesus joins Peter and another disciple who are walking to the village of Emmaus near Jerusalem and talking about Jesus's resurrection. Thinking he is a fellow traveler, the disciples initially do not recognize Jesus and are shown

asking Jesus to join them at Emmaus. On the right side, the three have dinner together. Jesus breaks bread which symbolizes the Eucharist. As this event takes place after the Crucifixion, Jesus bears wounds. Finally the two disciples recognize Jesus (Luke 24:30–31). Concern for narrative clarity prevails; the story is told through obvious gestures and without regard for realistic relative scale. Smooth rounded forms create sweeping curves, giving this miniature masterpiece a sense of monumentality.

A contemporary ivory plaque of the *Terrestrial Paradise*, from the circle of Charles the Bald, dated c. 870–875, offers a charming depiction (Musée du Louvre, Paris) that derives from descriptions in the *Etymologiae*, a summation of universal knowledge written by Isidore of Seville (c. 560–636), scholar, author, and archbishop of Seville. Eve and Adam appear on the top row. The six rows below on this narrow vertical plaque depict a variety of animals, some real—as the deer, goat, and elephant, others less so—as the centaurs, harpies, satyrs, griffin, and unicorn, all descendants from ancient mythology.

A ninth-century Carolingian ivory plaque portrays the *Crucifixion* (The Cloisters, New York). Tiny holes in the corners were used to attach it to a support. Angels are ready to receive Jesus's soul. The figure of Synagogue holds the banner. Below, on the left, Jesus's body is placed in the tomb; on the right, the three Marys find the tomb empty. The arrangement of scenes in tiers is found elsewhere. The figure style is one of thick proportions, heavily draped, with loops of fabric encircling the body. The facial type, shared by all, is characterized by a square jaw, straight nose, and fleshy rounded forms.

The Carolingian dynasty was largely at a close by the end of the ninth century. By 870 Charlemagne's empire was split into two territories ruled by his grandsons whose lands roughly equaled today's France and Germany. In 887 Charles the Fat died, bringing about the end of Carolingian power. The death of the last Carolingian monarch occurred in 911. In the early tenth century the Frankish empire collapsed.

During the Ottonian era—the early tenth through the early eleventh century—Saxon kings, the greatest being Otto I of Germany, ruled. Continuing Carolingian tendencies, Germany took the lead in the arts. This is evidenced by a depiction of *Jesus Blessing*, with busts of the apostles, on an ivory plaque from a gospel book cover, probably carved c. 962–973 (Cleveland Museum of Art). Jesus is stiff, frontal, and formal, staring out at the viewer as he raises his hand in benediction. The apostles, carved in very high relief, seem to emerge from a back wall or thick mist and to be curious about Jesus. The workmanship displays a high level of skill,



Photo 5.2 *Basilewsky Situla* (holy water bucket), Ottonian, perhaps made in Milan, late tenth century/c. 980, ivory, h. 6 1/4 in. (16 cm.). Victoria and Albert Museum, London (A.18–1933). Victoria and Albert Museum, London/Art Resource, NY.

especially in the details; for example, the very fine carving of Jesus's hand enhances the grace and gentleness of the gesture.

The *Basilewsky Situla* (holy water bucket) (Photo 5.2), an Ottonian ivory, was created for the visit of the Holy Roman Emperor Otto II c. 980 to Milan, where it was presented and may have been carved. Ivory *situlae* are rare and were made strictly for special ceremonial occasions such as an imperial visit. Only four are known today (the others are in the Metropolitan Museum of Art, New York; Aachen Cathedral's treasury; and Milan Cathedral's treasury), and all date from the late tenth to the early eleventh century. The *Basilewsky Situla* is decorated with twelve scenes from the Passion of Jesus arranged on two tiers: Jesus Washes His Disciples' Feet; Jesus Betrayed by Judas; the Bargain of Judas with the high priest Caiaphas, in which Judas is seen accepting thirty pieces of silver; the Crucifixion; Judas Returns the Thirty Pieces of Silver to the high priest; Judas Hangs Himself; the Soldiers Guard Jesus's Tomb; the Three Marys at the Sepulcher; the Harrowing of Hell; Jesus Appears to Two Marys; Jesus Appears to His Disciples; and the Incredulity of Thomas. The inscriptions on the two upper bands are taken from a fifth-century hexameter rendering of the New Testament by Coelius Sedulius. The lower band

translates, "May the Father, who added thrice five to the years of Hezekiah, grant many lustres to the august Otto. Reverently, Caesar, the anointing-vessel wishes to be remembered for its art." Otto II came to the throne in 980 at the age of twenty-five. This inscription refers to the situla and extends good wishes to the emperor. On the upper edge are two raised human heads pierced with holes intended for the insertion of a metal handle. The holy water was contained in a separate metal bucket placed inside this ivory bucket, as the ivory would have been ruined had it been permitted to remain in contact with water.

Historical figures were depicted on medieval ivories. An example is offered by a representation of *Saint Gregory* on a late tenth-century plaque from Reichenau (Kunsthistorisches Museum, Vienna). Pope Gregory I the Great (590–604) is considered one of the four Latin fathers of the Church. Gregory made important changes in religious liturgy and music—the Gregorian chant is named for him. He worked to abolish slavery and to prevent war. This plaque shows Gregory receiving inspiration from the Holy Ghost; the dove is one of Gregory's attributes and refers to the legend that the Holy Ghost visited him in the form of a dove and dictated his writings. Gregory is in his study, leaning over his desk as he works on his writing. He is framed by curtains that have been parted and knotted around flanking columns. The central arch forms a sort of halo for Gregory. In the small segment below, three monks in the scriptorium diligently copy manuscripts.

The *Assumption of Mary* is depicted on a German ivory plaque, made c. 980, perhaps in Metz (Kunsthistorisches Museum, Vienna). Mary appears twice: once on the ground flanked by a half dozen apostles on either side, and then being dramatically assumed into heaven. When Jesus is shown to rise to heaven it is by his own power and the subject is called the Ascension. But in the *Assumption of Mary* some help is needed—Mary seems to be tossed up by two angels and caught by a hand that pulls her up into heaven. Those who are already in heaven gesture in surprise at this. And the apostles below, some of whom point up, seem still more amazed. The division between heaven and earth is indicated by puffy rounded clouds.

An Ottonian ivory plaque carved in 1030 portrays Saint Paul (Musée National du Moyen Age, Paris). The apostle is seen unrolling a scroll inscribed with a quotation from the first epistle to the Corinthians. Framed by the common architectural motif of an arch on columns, Paul is shown frontally, garbed in rippling drapery. The carving is done in high relief, giving a very sculptural quality to this small ivory.

During the Romanesque era, England was also an especially important center for ivory carving, many commissions coming from Church patrons and religious foundations. England and France were closely linked, particularly after the Norman Conquest of 1066, with influences moving in both directions. Not only artists but also patrons traveled, especially on pilgrimage routes running from England through France and across northern Spain to reach Santiago de Compostela in the far northwest. Consequently, a Spanish style appears in some English ivories, making it difficult to determine where a piece was manufactured and what its provenance may have been. For example, consider a large whale-bone plaque, 14 1/2 inches (37 cm.) high, carved with a depiction of the *Adoration of the Magi* in the late eleventh or first half of the twelfth century (Victoria and Albert Museum, London). In this strange representation, the figures are exaggerated in their movements and distorted in their proportions. The original use of this oddly shaped panel—somewhat trapezoidal—is not known. Nor is its origin: Spanish, English, and Flemish have been suggested. Mary wears a *gauffered coif*, a kind of hat with narrow pleats seen only in Spain, and the architecture is similar to that in Spanish works. The magi are especially akin to eleventh-century Spanish sculptures. Above the magi is the star they followed to find Jesus, to whom they now bring gifts of gold, frankincense, and myrrh. Jesus's proportions are those of a little man. The magi are miniature in comparison to monumental Mary. The carver used the long-established convention that equates physical size to the importance of a figure in the social and religious hierarchy, rather than to that figure's position in three-dimensional space. The composition is contrived to conform to the irregular shape of the panel—the columns lean in to support the arch and Mary's head fits perfectly within the curve of the curtain.

Also problematic is the place of origin of a *Descent from the Cross*, carved c. 1150, which is perhaps English and, more specifically, perhaps from the Herefordshire school (Victoria and Albert, London). Jesus is carefully lowered from the cross. The event is traumatic, the poses and gestures of the angels dramatic and emphatic. A man in the lower right holds a nail and the pliers used to remove the nails from Jesus's body; this man looks out at us, engaging our attention as well as our emotions. The drama is increased by placing the heads of mother and son together, by the angularity of the drapery, by the harshness of the zigzag folds, and by the gauntness of the emaciated figures.

Only a section survives from an intricately carved crozier shaft believed to have been made in Great Britain at some point during the

first half of the twelfth century (The Cloisters, New York). A *crozier* (also spelled *crozier*), a long staff with a curved crook at the top, is usually carried by bishops in their role as shepherds of the Christian flock, as well as by archbishops, abbots, and abbesses as a symbol of authority and leadership. This crozier shaft is carved with scenes arranged in tiers. Included are depictions of enthroned Mary and Jesus within a mandorla, here edged in flowers. This arrangement was popular throughout the Romanesque era. The bottom of this section of the shaft shows the donor in the process of presenting this very crozier to the bishop, a method of publicly memorializing one's own generosity, as noted elsewhere.

Among the several carved ivory crozier heads that survive, perhaps the most skillfully executed is that known as the *Saint Nicholas Crozier*, an English work in elephant ivory, perhaps made at Winchester, c. 1150–1170 (Victoria and Albert Museum, London). The degree to which a master carver is able to apply narrative scenes to a functional object having a shape that would seem inhospitable to the purpose is demonstrated here. At the tip of the head, the infant Jesus lies on a tendril that grows from the stem of the crozier and is supported by an angel. Carved on the shaft are the Annunciation to the Shepherds and the Birth of Saint Nicholas. Above, the infant Nicholas abstains from his mother's milk on fast days. On the outer curve of the crozier head, Nicholas, now an adult, provides a dowry for three impoverished daughters of a nobleman of Myra, so the daughters will not be sold into prostitution. In this clever arrangement, the figures seem to slip and slide—a highly inventive arrangement and an ingenious use of the shape of the crozier head.

The *Bury Saint Edmunds Cross* (Photo 5.3), an English walrus ivory of the mid-twelfth century that still retains traces of its original paint, is a celebrated work. Attributed to a Master Hugo, it is associated with the abbey of Saint Edmunds at Bury, England. Due to its delicacy, it is presumed to have been made as an altar cross rather than as a processional cross. The extremely complex iconography of the entire arrangement deals with salvation through Jesus's sacrifice. The *corpus* of Jesus is now missing from the cross; the holes that were used to attach the body are visible. It has been suggested that an English *corpus* now in the Kunstin-ustrimuseet in Oslo comes from the *Bury Saint Edmunds Cross*. The twisting pose of this figure with the head resting on the right shoulder conveys Jesus's suffering. The arms, made of separate pieces of ivory, are now gone.

The front of the cross looks like a tree with the branches cut. The central medallion, held by angels, formed a halo behind Jesus's head. Within



Photo 5.3 Master Hugo, *Bury Saint Edmunds Cross*, front, English, mid-twelfth century, walrus ivory with traces of original paint, $22 \frac{5}{8} \times 14 \frac{1}{4}$ in. (57.5×36.2 cm.). The Metropolitan Museum of Art, The Cloisters Collection, New York, 1963 (63.12). Image © The Metropolitan Museum of Art.

the medallion, the portrayal of Moses and the brazen serpent is a typological prefiguration of Jesus's crucifixion. On the right terminal plaque are the Descent from the Cross and the Lamentation over the Body of Jesus. On the left terminal plaque are the Holy Women at the Sepulcher with the guards sleeping below and an angel pointing up to heaven. This angel is gesturing toward the ascending figure of Jesus on the top plaque. The sculptor, evidently feeling compelled to create a composition that conformed to the square format, abbreviated the figure of Jesus, portraying only his lower body in an odd and awkward image. At the foot of the cross, Adam and Eve rise from their graves. Tradition holds that Jesus's cross was erected on the spot where Adam and Eve were buried. Their anatomy is an overt example of the medieval lack of concern for depicting the human body with anatomical accuracy.

The cross is equally impressive when seen from the back. On this side, the central medallion contains the Lamb of God (*Agnus Dei*), a symbol of Jesus. The terminal plaques depict the symbols of the four evangelists: on the left terminal is the lion of Saint Mark, on the right terminal is the ox of Saint Luke, and at the top is the eagle of Saint John. However, Saint Matthew's man is missing from the bottom. On the horizontal and vertical members of the cross, a total of twenty prophets are shown as busts or three-quarter length figures. The prophets hold scrolls with their prophecies. Old and New Testament figures are depicted—use of Old Testament figures as prototypes for those of the New Testament was common in the mid-twelfth century.

The *Bury Saint Edmunds Cross* measures only 22 5/8 inches (57.5 cm.) high. A great many figures have been carved with extreme care on a miniaturist's scale, yet they exhibit the physical distortions and conventions of representation characteristic of contemporary Romanesque work created on a larger scale in other media.

There are numerous images of Mary and her infant son Jesus in medieval art, some of which are of ivory. A fine example is the statuette of the *Madonna and Child* (Photo 5.4) made soon after the mid-thirteenth century, from the treasury of the Saint-Chapelle in Paris. It is carved of elephant ivory and still retains traces of its original polychrome. Mother and child exchange glances through slit eyes—intimacy and emotion are characteristic of French Gothic art in all media. A concern for basic human emotions is seen: these figures touch your heart with their tenderness. Unlike Romanesque figures that had no universal canon of ideal proportions, French Gothic figures tend to be slender. They are not portraits nor were they made from posed models. Rather, they represent an ideal, a type. Mary's pose is animated and the silhouette formed by the figures is repeatedly broken. Mary almost seems to have lost her balance in this example of the overt impact of medium on form. Her contours conform to the natural curve of the elephant's tusk, exaggerating her *contrapposto* (counterpoise) posture to the point of an animated hip-shot pose. Delicate and delightful, Mary is dressed as a young French queen, her fashionably pointed shoes peeking out at the bottom of her long flowing gown. The carving is slick and perfected; the result is the ultimate in elegant French courtly refinement.

An example of a Gothic ivory diptych, painted and gilded, is known as the *Soissons Diptych* because it is thought to come from the abbey of Saint-Jean-des-Vignes in Soissons (Victoria and Albert Museum, London). Made in Paris c. 1280–1300, it is part of a group of ivories exhibiting a similar style described as belonging to the so-called “Soissons group,” although



Photo 5.4 *Madonna and Child*, from the treasury of the Sainte-Chapelle, Paris, made in Paris, 1250–1260, elephant ivory, traces of polychromy, h. 16 1/8 in. (41 cm.), Musée du Louvre, Paris (OA 57). Erich Lessing/Art Resource, NY.

they are believed to have been carved in Paris. This courtly, sophisticated, and elegant work is carved on a nearly microscopic scale. The diptych is only 12 3/4 inches (32.5 cm) high and each leaf only 4 1/2 inches (11.5 cm) wide, yet many events are portrayed in this tiny space. A complex Gothic architectural framework on three levels that mimics contemporary buildings with pointed arches, trefoils, and turrets articulates each panel and organizes the scenes within it. The scenes tell the story of the Passion of Jesus, starting in the lower left and reading across both panels. Depicted on the lowest row are Judas Accepting the Thirty Pieces of Silver from the high priest; Judas Betraying Jesus with a kiss; Judas's Suicide by hanging; the Arrest of Jesus; Pilate Washing his Hands; and the Flagellation of Jesus. The middle row reads right to left with scenes of Jesus Carrying the Cross; the Crucifixion; the Deposition from the Cross; Jesus Entombed; the Resurrection; and the Descent into Limbo (Harrowing of Hell). The top row reads left to right again, with the Three Marys at the Tomb; Jesus's Appearance to Mary Magdalene and then to the Three Marys; Doubting Thomas questioning Jesus's wounds; the Ascension of Jesus; and the Descent of the Holy Ghost in the form of a white dove.

The continuing importance of the Cult of the Virgin (mentioned above) in the fourteenth century is reflected in the frequency with which Marian subjects were depicted by ivory carvers. *Mary Crowned Queen of Heaven*, flanked by two angels, is depicted on a tiny folding tabernacle consisting of three panels in the form of a triptych, only 15 1/2 inches (39.5 cm.) high, and all of 9 inches (23 cm.) wide when open, created by a French master in the fourteenth century (Metropolitan Museum of Art, New York). The tabernacle is ornamented with polychrome and gilt, as were many later medieval ivories, although such surface embellishment is unlikely to survive intact.

In regard to the current condition of medieval ivories, works composed of multiple panels of ivory may no longer retain all panels. For example, the same subject, *Mary Crowned Queen of Heaven*, is found on an ivory plaque also carved in the fourteenth century (Cleveland Museum of Art). Although this panel was originally the central panel from a triptych, it is now without the folding side wings.

Ivory plaques appear in many different formats. A curious item is a *Passion Booklet* carved of ivory, with polychrome and gilt, made in northern France or possibly Germany, c. 1300–1320 (Metropolitan Museum of Art, New York). On the outside of the booklet are scenes from the Passion of Jesus, starting with the Kiss of Judas on the lower right and the Flagellation of Jesus on the lower left. Above, Jesus Bearing the Cross is depicted and, finally, his Crucifixion. Inside, scenes from the lives of Mary and Jesus are shown on the individual ivory leaves, beginning at the first opening with Mary and Jesus with donors on the left and the Adoration of the Magi on the right.

Many small ivories were produced during the fourteenth century in ateliers in Paris and elsewhere for private use by individuals when praying in their homes or while traveling. An example is provided by a hinged diptych, made in Paris in the second quarter of fourteenth century, each leaf only 4 1/4 inches (10 cm) high and 2 11/16 inches (6.8 cm) wide (Detroit Institute of Art). Depicted on one wing is the *Adoration of the Magi* and on the other is *Jesus Crucified between Mary and Saint John*. Each scene is presented beneath Gothic architecture, carefully carved in miniature, with pointed arches that are inset with trefoils and surmounted by crockets.

Although French ivories set the standard in the Gothic era and were widely influential due to significant trade and travel in Western Europe, ivories made elsewhere were also distinctive in style. Compare the *Salting Diptych*, for example, which was also carved in the early fourteenth century, but is English, perhaps from Westminster (Victoria and Albert Museum, London). The left leaf shows the Madonna and Child; the right shows

Jesus as an adult, blessing. Although the repertoire of religious subjects depicted in English ivories is essentially the same as in contemporary French ivories, the *Salting Diptych* shows the less animated English facial types, stiff restrained poses that do not sway in space, and regularized drapery folds that differ emphatically from their more fluid French counterparts.

Although ivory was most often used during the Middle Ages to make plaques and statuettes serving devotional purposes, ivory was also used to make functional items such as large and small combs, oliphants, mirror cases, game pieces, and small caskets. Each was intended to serve a specific function discussed below.

Liturgical combs made of ivory, bone, or wood were used in the ritual robing of the priest before the Mass and sometimes in the anointing of bishops. Combing the hair was symbolic of ordering the mind. An English liturgical comb was carved c. 1120 with miniature scenes of the Annunciation to the Shepherds, the Dream of the Magi, the Adoration of the Magi, and the Massacre of the Innocents (Victoria and Albert Museum, London). Liturgical combs are quite large and have two sets of teeth; this example has finer teeth at the top and larger more widely-spaced teeth at the bottom, although other combs invert this. Liturgical combs were not used for everyday personal grooming; smaller simpler combs with single sets of teeth served this purpose.

A relatively unusual ivory item is an *oliphant* which is in the shape of a hunting horn. An example carved in southern Italy c. 1100 and the twelfth century depicts the Ascension of Jesus, busts of saints, and decorative bands containing animals (Musée National du Moyen Age, Paris). Although several oliphants survive from the Middle Ages, their exact purpose is not known. They are mentioned in the inventories of church treasuries but are not believed to have been religious in purpose. Other ivory oliphants also tend to date from the eleventh or twelfth century.

Ivory was also carved into chess pieces. Chess was a royal game, played at least as early as the time of Charlemagne. A set carved in the style of Salerno in southern Italy, in the eleventh or twelfth century (Bibliothèque nationale, Paris), includes the king and the queen, each with their attendants standing in crenelated pavilions. These chess figures document contemporary weaponry and defensive attire, for the knight on horseback is armed with a sword and round shield, while the pawn foot soldier stands ready for action, armed with a sword and shield in the Norman kite shape and wearing a helmet and shirt of mail.

The most famous medieval set of chess pieces is that from the Isle of Lewis, carved c. 1150 from walrus tusks and whale teeth (British Museum,

London). The carefully crafted Lewis chess figures document the attire of the robed and crowned king and queen, each seated on a throne embellished with Celtic interlace and coiling designs. The bishop wears his miter and holds his crozier. The knight on horseback is protected by a conical helm and armed with a lance and shield in the Norman kite shape. The foot soldier, equipped with the same helm and shield, carries a sword.

The game of chess is depicted on several ivory mirror cases. Glass mirrors, so common today, were unknown during the Middle Ages when (as in antiquity) mirrors were made of polished metal. To protect the smooth metal surface, the mirror could be encased in two circles of ivory and the exterior carved with relief scenes depicting romantic or courtly subjects. Such mirrors were suspended from a lady's belt or carried in her purse, which might also hang from her belt. An example in the Musée du Louvre, Paris, dates to the first quarter of the fourteenth century, while another French example, in the Cleveland Museum of Art, is perhaps slightly later, dated to c. 1320–1350. On both, a young couple plays chess under a tent, and may be helped or hindered by the advice of their friends. The ivory carvers have managed to convey the tension of the game through the facial expressions and natural gestures.

Another popular subject for medieval ivory mirror cases was the hunt. Carved on a fourteenth-century French mirror case (Metropolitan Museum of Art, New York) are a lady and a gentleman on horseback, engaged in falconry, and accompanied by a boy blowing a horn.

Other fourteenth-century French ivory mirror backs depict horsemen with a different quarry, for they storm the Castle of Love where ladies eagerly await them. The *Siege of the Castle of Love* (Photo 5.5), from the mid-fourteenth-century Ile-de-France, exhibits an especially high level of carving. In this charming courtly romance, the knights attack the castle in which the ladies defend themselves by throwing roses at their assailants. The same flower appears on the shield of one of the knights. Not surprisingly, the knights readily gain access to the castle, one woman actually aiding an attacker in his ascent. The *Siege of the Castle of Love* was performed at medieval festivals as entertainment. When not away at war or out hunting, the Gothic nobility's other favorite pastime was the quest for romantic love.

A number of small ivory caskets survive, as do the thin plaques that were once attached to these containers but have since become separated. The supporting structure of the casket is wood, to which the ivory plaques are affixed. Such boxes were a specialty of Parisian ivory workers and were often used to contain valued items. They were usually



Photo 5.5 *Siege of the Castle of Love*, mirror case, Ile-de-France, mid-fourteenth century, ivory, d. 5 1/4 in. (13.5 cm.). Victoria and Albert Museum, London (1617–1855). Victoria and Albert Museum, London/Art Resource, NY.

decorated with scenes of courtly amorous events or other pleasurable activities. For example, *Scenes of Romance and Chivalry* are carved on an elephant ivory casket made in Paris, c. 1330–1350 (Walters Art Gallery, Baltimore). On the lid, two knights on horseback joust, watched by a crowd of people on a balcony. The knights are spoofed on the flanking sections: on the left is the Castle of Love under siege; on the right, the women use rose branches as they ride in battle against men armed with oak branches, a symbol of fertility. On the front, the story of Aristotle and Phyllis is depicted in which the elderly Aristotle is so enamored that he permits the young Phyllis to ride him like a horse. In keeping with this theme, also shown is the Fountain of Youth. On the back, from the left, Sir Gawain battles a lion. Next, Sir Lancelot crosses a bridge. Then Sir Gawain lies on a magic bed as spears rain down on him—an ordeal he survives thanks to sleeping in full armor under his shield. On the far right are the ladies of the Castle Merveille. On the left end, the knight Tristan meets Queen Iseult by a fountain while King Mark spies on the lovers from above. Tristan points to Mark's reflection in the fountain's water. On the right, a unicorn, symbol of purity, is caught by a hunter.

Finally, on the right end panel of the casket is Sir Galahad, wearing fourteenth-century style mail. At the Castle of the Maidens, Galahad takes the key from the old gatekeeper.

In conclusion, ivory, an innately appealing and highly valued material, was used during the Middle Ages to create carvings that were exquisitely crafted with the tiniest details. Although limited in size, no limit to the types of objects created in ivory or to the subjects carved in relief on these objects is evident. In the following chapter, the range of materials used by medieval sculptors will be expanded to include metal, wood, and stone.



Metal, Wood, and Stone

Church Treasuries

The practice of amassing valuable items with religious associations began in antiquity. Early religions such as those of the Egyptians, various Near Eastern cultures, the Greeks, and the Romans used costly objects in their religious rituals and ceremonies. With the Edict of Milan in 313 CE, Emperor Constantine (r. 306–337) granted freedom of religion to the early Christians. Constantine built the Basilica of the Savior in Rome, now known as San Giovanni in Laterano, to which he donated a huge ciborium (canopy) of hammered silver that was placed over the main altar, as well as other valuable items such as lamps, altars, patens, goblets, pitchers, chalices, and candlesticks. In so doing, he established the repertoire of objects characteristically held in medieval treasuries. The extremely rich church treasuries of the Middle Ages are associated especially with the Romanesque and Gothic churches of western Europe. Treasury items are classed by art historians among the decorative arts because they are precious works made of the most expensive materials—works of sumptuousness on a small scale.

Great attention was given to ecclesiastical art objects during the Middle Ages—the most skilled artists, the most precious materials, and significant sums of money were involved in their production. Most of these objects were used in the religious rituals, each having a specific function. The beauty of each item was intended to add splendor to the ritual as well as to inspire the beholder. Even the most utilitarian objects might be embellished and made into works of art. These objects were

highly valued during the Middle Ages and viewed as treasures then as they are now, regarded as a form of acquired wealth for a church, comparable to money in the bank. When not in use, the objects were stored in locked treasuries along with actual coins. The treasury had to be physically secure, but also needed to be accessible from the sanctuary so that items could be readily available for use in the services. Inside the treasury, the objects might be stored in chests and cabinets. Larger items, such as the altar, altar canopy, choir screen, and sizable paintings and sculptures, were stationary inside the church.

The most celebrated object in the treasury of the church of Sainte-Foi (Foy) in Conques, is the *Reliquary of Sainte-Foi*. Said to have been brought before the proconsul Dacian, where she asserted that she was a Christian, Sainte-Foi was martyred in 303 at the age of twelve in the city of Agen under persecution by Emperor Diocletian. Initially, she was put on a grill over coals, but rain extinguished the fire. Ultimately she was beheaded. It is said that 500 people, inspired by her example, become Christians on that day and died with her. In the ninth century, the relics of Sainte-Foi were brought to Conques from Agen by the Benedictine monk Aronside to avoid their destruction by Norman invaders. This story says much about religious faith, fervor, and the importance of relics.

Contained within the reliquary figure of Sainte-Foi is her head (or the top of her head). The figure is constructed with a wood core, surrounded by gold and gilded silver. The terms *gilded* and *gilt* may be used interchangeably; to describe an object as *parcel-gilt* is to say that it is partially gilded, the term generally used to refer to a silver object that has been gilded on one surface only or with designs of gold.

Because the relics of Sainte-Foi were believed to perform miracles, pilgrims stopped in Conques on their way to Santiago de Compostela, some donating gold and precious stones. Jewels presented to the church of Sainte-Foi were incorporated into the attire of the reliquary figure. While medieval cult images and reliquaries were often set with several precious stones, this extraordinary figure is encrusted with a great many: Sainte-Foi is adorned with, in alphabetic order: agate, amethyst, carnelian, crystal, emerald, garnet, hematite, jade, onyx, opal, pearl, ruby, sapphire, and topaz. Her incrustation also includes three antique Roman cameos and thirty-one antique intaglios that are Egyptian, Greek, Roman, and Byzantine work.

The first known written description of the reliquary of Sainte-Foi dates to 1010, although the figure was probably initially created under

Bishop Stephen II of Clermont who was concurrently Abbot of Conques (940–984). The reliquary was often modified thereafter. The concept of a work of art as something that, once completed, must not be modified by anyone other than the artist who created it, was not part of medieval thought. The crown, earrings, throne, and some filigree bands date to the late tenth century. In the thirteenth century a little doorway for relics was made in the chest. The waistband dates to the fourteenth century, and the forearms are sixteenth-century work. The head may actually be much earlier—fourth century has been suggested; it was then incorporated in this new context. Thus the reliquary figure of Sainte-Foi is a composite of works created over several centuries in a variety of styles that once served purposes quite different from their present use.

The medieval attitude to the ancient Roman past is indicated by the fashion for incorporating ancient Roman gems into medieval reliquaries, crosses, and other treasury objects, thereby reusing ancient pagan art in overtly Christian contexts. The carving of new gems ceased to be an art form after the ninth century in the West, but carved Roman gems, crafted centuries earlier, were remounted on medieval objects. Because the ancients carved very hard stones, their delicate work remained in fine condition and satisfied the medieval love of minute craftsmanship in valuable materials. Ancient art and architecture, especially that of the Romans, served as a quarry for the Middle Ages both figuratively for ideas and literally given that ancient buildings were plundered as ready sources of cut stone, columns, and capitals for reuse in the construction of Christian churches. In addition to the obvious appeal of the cost-effectiveness of this practice, the reuse of ancient Roman buildings linked medieval rulers to the great rulers of antiquity. There was political propagandistic value to establishing an association with antiquity—especially Roman antiquity—which retained an exalted status throughout the Middle Ages.

Little conflict was felt between the paganism of the past and contemporary Christianity when creating a work of art. When remnants of pagan antiquity were reused in medieval settings, the Church took what were deemed “suitable precautions” prior to inserting the pagan gems and other items into their new Christian environment. Similarly, medieval artisans copied antique working methods, designs, and motifs. Medieval creativity was free to combine various parts and pieces made in different times and places, as well as ideas derived from different sources.

Major medieval church treasures that survive today in their original locations are in France in the church of Sainte-Foi in Conques, the church in Saint-Nectaire, the church in Mozac, and the cathedral of Saint-Étienne in Sens; in Italy in the church of San Marco in Venice; and in Germany in the Cathedral of Aachen.

Treasures, no longer extant, are known to have existed in other locations. That at the church of Hagia Sophia in Istanbul seems to have been at the northeast corner of the church, in a separate building, cylindrical in plan, described in a seventh-century text as containing “fans, patens, chalices, and other sacred vessels.” The treasury at Saint Peter’s in Rome was established in the fourth century but was repeatedly plundered. Today, the Vatican collections consist largely of donations made after the Renaissance. In the early twentieth century, a chest filled with relics and reliquaries was found in the altar of the pope’s private chapel in the Lateran Palace in Rome. Inscriptions indicate this valuable collection was made for Pope Leo III (795–816). The treasury amassed at the royal abbey of Saint-Denis under Abbot Suger in the mid-twelfth century was displayed in the choir of the church, which Abbot Suger designed himself. Additionally, there were special rooms in or near the church that were used for both the safekeeping of these valuable items and for their display. The objects commissioned and collected by Abbot Suger are recorded in *Histoire de l’abbaye de Saint-Denis en France*, written by Dom Michel Félibien and illustrated on plate IV (published in Paris, 1706). Erwin Panofsky and Gerda Panofsky-Soergel provide additional information in their translation, *Abbot Suger on the Abbey Church of St. Denis and Its Art Treasures* (Princeton University Press, Princeton, 1979).

Major collections of medieval treasury objects are found in several museums. In the United States, the most significant is that of the Metropolitan Museum of Art and its branch museum of medieval art, The Cloisters, in New York City. The Walters Art Gallery in Baltimore also possesses an important collection of medieval treasury objects. In France, the Musée National du Moyen Age (National Museum of the Middle Ages, the former Musée de Cluny) in Paris has the most notable collection of medieval treasury items. In England, the Victoria and Albert Museum in London can justifiably claim the same distinction.

Due to a variety of circumstances, only a very small percentage of treasury items manufactured during the Middle Ages remain today. The looting of churches is the most common cause of their destruction. In 410, Visigoths sacked Rome, including her churches. In 846, Muslims pillaged Rome. Some treasures were depleted and others were replenished

with the pillaged items. During the Fourth Crusade (1204–1261), Constantinople was sacked and many of the items stolen from its churches and palaces were taken to the treasury of San Marco in Venice, where they were displayed not only for their religious and monetary value, but also to publicize Venice's military victory. The treasury of the Guelphs in Brunswick included Ottonian, Romanesque, and Gothic objects. The earliest known inventory of this treasury, made in 1482, listed 140 objects, but they were gradually dispersed over the years. When Henry VIII confiscated the vast contents of the treasury of Canterbury Cathedral, twenty-four carts were required to transport the items to the London mint. The decoration of the shrine of Saint Thomas Becket alone filled two huge chests so heavy that six men were required to lift them. Between 1536 and 1540, the treasury items were melted down at the London mint. In France, many church treasuries that had survived for centuries came to an end at the time of the Revolution of 1789.

Alternatively, treasury objects were sometimes sold by the Church when money was needed to buy food for the congregation, to feed the poor, or to finance a war. Valuable items might be sold when a monastery or church closed. As time passed, some items were damaged, some ruined, and others lost.

Treasuries, like that in Brunswick, were inventoried regularly. Inventory documents provide useful sources of information because by comparing items and dates it is possible to determine when new items entered the collection, giving historians a means of approximating the date of their manufacture. The treasury of San Marco in Venice was inventoried eighteen times between 1283 and 1845, new entries appearing as San Marco's wealth continued to increase. In addition to inventories, information on church treasuries is found in chronicles and other forms of literature written in medieval times and later. These sources reveal pride of ownership and a fascination with fine work and valuable materials, the objects exerting an almost magic appeal.

Functions of Treasury Objects

Most treasury items had liturgical uses and were, in this sense, meant to be utilitarian. As to the kinds of treasury objects used in religious services, the mosaic of the *Emperor Justinian and his Attendants* (Color plate 11), c. 547, flanking the altar in San Vitale, Ravenna, documents which objects were used in the ritual that took place at the altar. Justinian holds a paten, Archbishop Maximianus holds a cross, one deacon

holds the gospels, and another holds a censer. Opposite this mosaic is that of *Empress Theodora and her Attendants* in which Theodora carries a chalice.

The Lateran Council of 1215 made clear the official Church position on the sacrament of the Eucharist, resulting in an increase in the number of liturgical items manufactured for use in connection with the doctrine of the Eucharist. The Eucharist derives from the accounts of the Last Supper as told in the four gospels. Matthew, 26:26-28, says, "Christ took bread, blessed and broke it and gave it to his disciples saying: Take ye and eat. This is my body ... Taking the chalice ... Drink ye all of this. For this is my blood...."

Two categories of ecclesiastical objects have been established, simply referred to as primary and secondary liturgical items. Primary (or principal) items are the vessels used in administering the consecrated bread and consecrated wine of the Eucharist, such as chalices, ewers and cruets, gemellions, patens, pyxides, monstrances, and Eucharistic doves. A *chalice* is a footed cup or goblet used to drink wine at mass, sometimes with straws. *Ewers* are small pitchers for wine and water. Similar are *cruets*, small pitchers used in pairs, one for Eucharistic wine, the other for water, which are then mixed in the chalice. Cruets may be marked on their lids to indicate whether wine or water is contained within. *Gemellions* are basins used by the priest to wash his hands at mass; because they were used in pairs, the name comes from *gemellus* (twins). A *paten* is a plate. A *pyx* (plural *pyxides*) is a small box that contains the consecrated wafer or bread that represents the body of Jesus. A *monstrance* is used to exhibit the host for veneration. In 1254, monstrances were approved for use in the ceremony of the feast of Corpus Christi. The enameled *Eucharistic doves* that hung on chains above the altar and flapped their wings when lowered or raised, represented the Holy Spirit; the sacrament was placed inside. Because the wine and bread used in the church ritual represented Jesus's blood and body, respectively, it was felt that they should be served in the finest of objects. Although more expensive, more durable materials were highly desirable, set with the hardest stones such as chalcedony and sardonyx, liturgical items were not always made of precious materials and some are made of simple terra-cotta, base metals, or glass.

Secondary liturgical items, like the primary items, are also used in the celebration of the mass and were also part of a medieval church treasury. They include censers and incense boats, flabella, situlae and aspergilla, oil boxes, croziers, reliquaries, lamps, and altars, as well as crosses and crucifixes, candlesticks, and manuscripts. A *censer* is used to hold grains of

incense which, when burned, produce perfumed smoke that escapes through the openings in the censer. An *incense boat* was used to store incense—the shape reflects the analogy of the Church to a ship. A *flabellum* (plural *flabella*) is a liturgical fan, used to discourage flies. A *situla* (plural *situlae*) is a small bucket that contains holy water (see Photo 5.2). An *aspergillum* (plural *aspergilla*) is used to sprinkle the water. A small box contains the three holy oils used for baptism, confirmation, and extreme unction. *Crozier*s are the staffs carried primarily by bishops (see Chapter 11). *Reliquaries* contain body parts or other tangible mementoes of important religious figures such as Jesus, Mary, and saints. *Lamps*, both hanging and on stands, were used to illuminate the altar. *Altars* ranged from the large examples permanently positioned in churches and cathedrals to small portable altars used for an individual's personal devotions. Religious images used in private prayer may also be classified with the secondary liturgical items.

Use of treasury items was not restricted solely to the interior of churches and cathedrals. During celebrations, liturgical items including crosses and reliquaries were carried through the streets, as was done, for example, in Rome in 590 in thanks for the end of an outbreak of the plague.

A medieval church treasury contained many valuable objects, not all of which were necessarily exclusively religious in function. Today a distinction is made between religious and secular, perceived as two separate and even opposed concepts. But it is unlikely that this distinction was so apparent to the people of the Middle Ages. The Church was part of daily life and the division between Church and State was far in the future. Thus, at the royal abbey of Saint-Denis the liturgical vessels were kept with the “imperial regalia.” At San Marco in Venice the treasury included jewelry and drinking vessels. The abbey of Saint Benedict at Monte Cassino kept treasury items in the company of trunks filled with coins.

The importance and impressiveness of the religious service was enhanced by the richness of the liturgical items. Today's viewer can only imagine the appeal and effect of these objects when seen in their original environment—in stone-vaulted spaces, with colored light coming through stained glass windows, and candle lights flickering. This is perhaps best described by the aforementioned Abbot Suger, a Benedictine monk, politician, and Regent of France during the Second Crusade, best known today for his activities while abbot of the royal abbey of Saint-Denis from 1122 to 1151. Suger, with royal support, actively sought to enrich Saint-Denis with precious objects. In addition to acquiring new items, he

renovated and embellished existing items. Among Suger's treasures was the famous *Eagle Vase* (Musée du Louvre, Paris), about which he wrote, "... we adapted for the service of the altar, with the aid of gold and silver material, a porphyry vase, made admirably by the hand of the sculptor and polisher, after it had lain idly in a chest for many years, converting it from a flagon into the shape of an eagle; and we had the following verses inscribed on this vase: 'This stone deserves to be enclosed in gems and gold. It was marble, but in these [settings] it is more precious than marble.'" The medieval artisans' extraordinary technical skills further enhanced the appeal of the porphyry vase with patterns of brightly colored polished stones, artfully arranged and set in precious metals. The combination of various materials was a typically medieval approach to embellishment, each material having an intrinsic value which was greatly increased by using several together.

Another example of this medieval aesthetic of combining two or more very different materials to enhance the appeal of each material, as well as of the medieval willingness to combine old and new, is provided by the *Chalice of Abbot Suger* (National Gallery of Art, Washington, DC), used for wine during mass and for consecrating the new altar chapels on June 11, 1144. The cup was carved of sardonyx, probably in Alexandria during the second or first century BCE, the multicolored veining emphasized by the fluted surface. The mounting was made 1137–1140 of gold and silver, gold wire filigree, and gems. Of these, the originals are *cabochons*, stones that have been smoothed rather than cut in facets as became customary only in the fifteenth century—the faceted stones on the chalice are modern replacements. The four medallions on the base symbolize the Eucharist with grain and grapes, but only that of Jesus is medieval, his halo flanked by the Greek letters alpha and omega. Jesus says, "I am the Alpha and the Omega, the beginning and the end," in the Book of Revelations. The image of Jesus with his hand raised in blessing originates in Byzantium and parts of the cup are Byzantine in style; Byzantine-trained goldsmiths may have made the mounting.

In addition to their ritualistic, financial, and aesthetic worth, treasury items were also fully appreciated for their emotional value. The outward beauty of these objects had an inner appeal that was recognized and utilized during the Middle Ages. This is suggested by Abbot Suger's description of how the jeweled altar of Saint-Denis made him feel:

Thus, when—out of my delight in the beauty of the house of God—the loveliness of the many colored gems has called me away from external

cares, and worthy meditation has induced me to reflect, transferring that which is material to that which is immaterial, on the diversity of the sacred virtues: ... I see myself dwelling ... in some strange region of the universe that neither exists entirely in the slime of the earth not entirely in the purity of heaven; ... I can be transported from this inferior to that higher world in an anagogical manner.

The concept of transferring the material to the immaterial is fundamental to understanding the medieval attitude toward religion and religious art and may be seen as necessary to the extensive medieval use of iconography in religious art. In fact, even the immaterial was interpreted in this manner—the natural light streaming through stained glass and reflecting from polished stones was compared to divine light. The visual richness of medieval churches and cathedrals made a powerful appeal to the eyes and the emotions, for this sumptuousness was intended to inspire a sense of awe, lifting the spirits of the medieval beholder toward God.

Lucas of Tuy, Spain, writing probably around 1230 before becoming bishop in 1239, noted that the idea of adorning the temple or church because it is the house of the lord is very old. He substantiated this by citing the example of Solomon who “enriched his temple with a wonderful beauty of gems, gold, and silver, and decorated it with images of varied sculpture, so that it would make the name of God famous everywhere, and draw the nations of diverse people to itself.” Thus, Lucas cites the rich decor of the Temple of Solomon to justify that of the churches of his own time.

Types of Sculpture

Three-dimensional works of art were usually made during the Middle Ages by one of two basic methods: (1) modeling and assembling, or (2) carving. The first method, modeling and assembling involves materials such as metal, clay, plaster, and wax that have no set form or dimensions. The shape of the work of art is created by subtracting or adding material as its form metamorphoses under the sculptor's hands. The second method, carving, involves materials such as ivory (discussed in Chapter 5), wood, and stone that have natural mass and, therefore, restrictive dimensions within which the sculptor must work. The form is created by subtracting material through carving. Although a variety of tools were used to carve wood and stone, the most common was a

simple chisel held in the left hand and struck with a mallet held in the right hand, causing the chisel to penetrate the sculptural medium. Throughout the Middle Ages, everyone was obligated to be right-handed, whether thus inclined from birth or not.

Different geographic areas had specialties based in part on the materials available. In certain locations, metals such as gold, silver, bronze, and brass were either readily available or were easily imported. Some areas were thickly forested with species of trees having wood suitable for artistic carving. Other areas had abundant stone of high quality and different types such as alabaster or marble, fine-grained and multi-colored.

Materials and Methods of Metal Sculpture

A great variety of objects were created in medieval metalworkers' shops, including the many types of religious objects just mentioned, as well as various secular utilitarian items. These included vessels to contain liquids such as vases, pitchers, flagons, goblets, aquamanilia, and hanging lavfers; tableware such as platters; table decorations such as saltcellars and pricket candlesticks; jewelry; bookbindings; and mortars. Small objects might be made of valuable metals such as gold and silver. Because gold was regarded as the most precious metal, silver was often gilded to simulate the effect of solid gold. Less expensive metals such as brass and bronze were usually used for utilitarian and larger objects.

Gold is naturally brilliant, yellowish in color, and extremely permanent; it does not oxidize or corrode, and remains in perfect condition even after many centuries have elapsed. Gold is highly ductile—a gram (.0353 oz.) of gold may be drawn out to form a wire almost two miles (3,200 meters) long. Gold is the most malleable of all metals; as mentioned, gold leaf may be made less than one micron thick and it may be readily transformed into virtually any shape desired. Gold is easily cast, embossed, or stamped and will not harden and therefore become unworkable later. Among the metals used by medieval artists, next in malleability is silver, then copper, tin, lead, and soft steel. Brass and bronze, which are alloys, are generally less malleable than their component metals. Hard steel and cast iron are not malleable.

Gold is found in two forms. *Placer* (alluvial) *gold* is weathered out of rock in the form of nuggets or small grains, and is gathered from streams where it collects. *Reef* (vein) *gold* is mined. During the Middle Ages, placer gold was used more frequently than reef gold. Gold was found in the Rhine, Tiber, Po, Rhone, and Garonne rivers. Because gold

rarely occurs in a pure state, various methods of refining gold were employed during the Middle Ages. Copper was removed by *cupellation*, a process in which gold is alloyed with lead, the mixture melted, and then oxidized in a strong current of air. The *cupel*, which is the vessel in which this procedure was performed, is sufficiently porous to absorb base metals, leaving the gold and silver.

To separate gold from silver, various methods were employed. Salt may be used to separate the silver as silver chloride. Alternatively, the gold and silver may be heated until molten and mixed with pieces of sulfur. When cool, the black silver sulfide is removed by repeated hammering until no sulfide is visible. Later in the Middle Ages, nitric acid was used for this purpose.

Silver is a naturally bright metallic element, pale gray in color. Silver is very malleable and ductile. Like gold, silver is rarely found in a chemically pure state in nature, instead usually occurring in combination with other metals. Silver may be extracted from lead ores that contain silver, such as lead sulfide (*galena*) or lead carbonate (*cerussite*). The ore is roasted, then cupellation is used to separate the silver from the lead ore. Theophilus, mentioned in previous chapters, described this method.

Lead is a soft, heavy, bluish-gray metallic chemical element. It is malleable and ductile and may be readily fused. Lead tarnishes to grey. It may be cast, wrought, or hammered into the desired shape. Lead is often used in making an *alloy*, a substance formed by melting or fusing together two or more different types of metal.

Copper is reddish-brown in color, and is malleable and ductile, but not desirable for casting in its pure state. Better casting can be achieved if the melting point of the copper is lowered by adding alloying elements. Nickel, antimony, and arsenic were used in medieval copper alloys. Recent studies have examined the changing percentages of each used. When alloyed, the result is a harder metal with a lower melting point than the individual metal ingredients. The addition of silver lowers the melting point of the metal, which is desirable when casting. Copper may be added to silver to make a harder metal that may still be cold-worked. Copper is also used in alloys such as brass and bronze, the alloying making the brass or bronze harder and less inclined to corrode.

Golden-colored brass is an alloy of copper and zinc (often two parts copper, one part zinc) and is a more durable metal than copper alone. Bronze, an alloy of copper and tin that may include small amounts of zinc, phosphorus, or other elements, is still more durable than brass and was the metal used for most fine casting. Latten, a copper alloy that

contains zinc, tin, and lead, is the metal used to cast most medieval objects. Latten looks much like gold, but lacks its monetary value.

The greenish or more rarely bluish or reddish *patina* that forms on the surface of copper alloy objects is the result of oxidation of the copper, which is a chemical transformation that occurs gradually when the metal is exposed to air, the process called *patination*. This thin film or incrustation is referred to as *aerugo* or *verdigris*. This color change is not regarded as decay but, instead, is considered an aesthetically desirable characteristic of the material.

Although medieval materials and methods of metalworking were akin to those used in Roman antiquity, several technical advances were made during the Middle Ages. Theophilus, discussed in previous chapters, deals with metalwork in his *De diversis artibus* (*On Diverse Arts*), Book 3. He describes “simple machines and specialized tools,” but his greatest emphasis is on the skill of the worker using them. The metal was shaped by several methods: by hammering sheet metal, by casting molten metal (lost-wax casting and piece molds), or by composing objects from parts that were usually joined with copper solder. Portions could be raised or recessed. Surfaces could be stamped, engraved, gilded, or finished in other ways. The medieval source of heat for metalworking was a charcoal fire, usually aided by bellows, although wind furnaces were also used.

Repoussé

Hammering was used to create objects in the round and in high or low relief. *Repoussé*, a method of hammering flat metal from the back to create a raised design on the front, was used at least as early as the second millennium BCE, although when it was first used is not known. During the Middle Ages, the metal, cast as a *billet*, was prepared for artistic work by shaping it into a flat sheet. A fairly thin sheet of copper was usually used, although gold or silver was also employed. The metal is carefully struck on the back with hammers and rounded chisels to push portions of the metal sheet into a negative mold. The metal is removed from the mold and the fine details are made by hammering and chasing or engraving on the front. The metal sheet may be fixed to a support of wood or other material. A leather support was sometimes used in the Middle Ages to give the forms a soft, rounded appearance.

Theophilus, Book 3, Chapter 74, explains how to do repoussé. He instructs the reader to use gold or silver and to make the metal sheet

perfectly consistent in thickness. This has been correctly achieved when, “the impression of a fingernail is just visible on the other side.” Theophilus tells the metalworker to rub and hammer out the forms from the underside. He advises starting with the heads of the figures because the head is always more three-dimensional. Theophilus says to repeatedly “put charcoal on it and anneal it.” *Annealing* refers to the process of heating metal to make it less brittle, more readily worked with greater force, and to produce a stronger object. The annealing is accomplished by heating the metal until it glows, thereby reducing the “strains set up in the crystal structure of the metal by deformation,” explains Theophilus. Copper alloys and silver are annealed, whereas gold need not be annealed.

Casting

The high level of metal casting achieved by the ancient Greeks, Etruscans, and Romans continued in the Middle Ages. Most casting of objects, large and small, was done by the *lost-wax* process, frequently referred to by the French term *cire perdue*. Theophilus, the only known extant medieval source on metalworking, describes the technique as he explains the way in which he made a censer. He says that the core is shaped using a mixture of sifted clay and dung. A wax (or tallow) coating is applied to this core and then modeled into the form of the desired object. The layer of wax is made as thick as the walls of the object will be. A *gating system* of wax rods (called *gates* or *runners*) is attached to the wax surface. Metal pins (not mentioned by Theophilus), not necessarily of the same metal as would be used to cast the piece, are inserted through the wax and into the core, evenly distributed, and long enough to extend into the surrounding *investment*; the purpose of the pins is to keep the core and investment layers in their proper relative positions. The clay core and wax coating are then encased in the investment made of a number of thin layers of clay and sand or of powdered stone, thereby forming the mold. Consequently, the method is also referred to as *investment casting*. When applying the investment, the first coats are brushed on in thin layers so that the details made in the surface of the wax will be retained. The encasement is allowed to dry and another layer is added, the process repeated, using thicker layers. When this construction is fully dry, it is heated, cured by firing in a charcoal furnace or kiln until red hot. This causes the wax of the coating and rods to melt; it is “lost” as it drains out the gates. The wax was saved to be re-used for another project.

The piece is removed from the furnace or kiln and, while still hot, buried in earth up to the level of the pouring basin. The metal that will become the sculpture is heated until molten and then is poured into the mold so it flows from the main channel (the *sprue*), through the small channels formed by the gates. These channels also provide vents through which the gases produced by the molten metal escape—they would otherwise pit the surface. The molten metal replaces the wax between the core and the mold, thereby forming the sculpture. The pieces of waste metal left in these small channels after casting are also called *gates*, and that in the *sprue* is also called a *sprue*. The piece is surrounded by earth to avoid the investment breaking from the pressure of the gas and steam produced when the molten metal is poured into this mold. Later, the earth also serves to insulate and to slow the cooling. Because metal shrinks as it cools, it is important to make the metal as even in thickness as possible to prevent cracking while cooling. The lost-wax casting method is suitable for hollow objects and small figurines. Only very small pieces may be solid cast, and some of these have hollow backs or bottoms. After cooling, the encasement and the core are removed. The metal positioning pins and the metal that filled the gates and sprue must also be removed.

The openings in an object such as an aquamanile (see Photo 6.4) or a censer are created simply by removing the wax from the core in the places where an opening in an object was needed. Some aquamanilia or other objects also have openings intended specifically for the removal of the core material in the heads, chests, or abdomens. These openings—access holes—were filled in with metal plates as part of the finishing process for the piece.

Some aquamanilia and other cast metal objects included a supportive *armature*, made of metal or wood, sometimes serving much like a skeleton for the piece. A long neck on an animal, for example, would have required an armature. Delicate arms and legs on a figure could have benefitted similarly. After the piece was cast, the armature might be removed with the core or, alternatively, might be integral and intended to be left in place. A small solid figure, without openings, was cast so that the core and armature remained.

Lost-wax casting creates a single object that cannot be exactly duplicated. Because the investment is destroyed as it is removed in the lost-wax technique, it is referred to as a *waste mold*. In contrast, a *piece mold* is constructed purposely in separate sections so that, after the cast is made, the mold may be removed in intact pieces that are reused to cast the

same form again. However, a piece mold limits the shapes the metal-worker is able to create because a rigid mold cannot be removed from an undercut shape. A metal object might also be made in several pieces that were joined together either by mechanical attachments or by soldering.

It is probable that most medieval metal objects were made in workshops. A workshop that made functional objects from nonprecious metals by lost-wax casting may be assumed to have produced a wide range of items such as aquamanilia, candlesticks, door pulls, and fonts. But it is unclear if the same workshops also produced objects in precious metals, such as gold and silver, that were not cast in the lost-wax technique but were instead shaped in other ways.

Worthy of mention here is a type of casting, very different from that just discussed, used to make a cast of a living sitter. Cennino Cennini, mentioned in previous chapters, described a method that probably began during the Middle Ages. Grease is applied to the sitter's face. Breathing tubes are placed in the sitter's nose. Plaster is applied to create a mold from which an exact copy of the sitter's face may be cast. Cennini also describes a method of building a wooden enclosure around a nude person and making a cast of the entire body!

Finishing Metal Sculpture

The surfaces of metal objects formed by casting or repoussé or other methods must be finished. *Chasing* the surfaces by chiseling and polishing corrects minor imperfections, removes unwanted marks left from the casting process, and enhances fine lines and details. Chasing is done using chisels having variously shaped heads that are carefully struck on the opposite end with a hammer. Files of different shapes might also be used.

Niello is a technique that has been used to decorate metal objects since Roman antiquity. Gold and silver objects were embellished with niello inlay, although the technique is appropriate for use on any kind of metal. Theophilus described the method. The design is incised into the metal. Into the recesses thus created is put niello, a metallic compound of sulfur alloyed with an amalgam of silver, lead, and copper. Other materials may be added. The niello is spread over the surface of the metal as a powder and then heated until it becomes an enamel-like solid that may be dark brown, gray, or black. The metal is permitted to cool. The surface is scraped smooth so the niello remains only below the surface in the incised

grooves. The surface is then burnished to a shine and polished with soft black stone and saliva. The technique is used especially for delicate decoration.

Another method of decorating metalwork is *filigree* made of thin gold, silver, or gilt silver wire that is bent, twisted, or braided into small-scale, complex, delicate patterns. The filigree work may be attached to a metal background (see Photo 6.3).

Gilding is the method used most frequently during the Middle Ages to embellish the surfaces of art objects. *Gilt silver*, also known as *silver gilt* or *parcel gilt*, is a method of applying gold to a metal object. In Book 3, Chapter 75, Theophilus tells his reader how to gild on silver. The portions of the silver not intended to be gilded are covered with a mixture of clay, salt, and “fairly thick beer dregs,” which is then dried onto the silver over live coals. Gold leaf is applied to the remaining areas. Finely ground charcoal is used to polish the surfaces (see Color plate 13).

A technique used to apply gilding on pure copper, bronze, and brass is *gold-mercury amalgam* or *fire-gilding*. This technique required dissolving a pasty mixture of gold in mercury that was brushed over the areas of the object to be gilded. When the object was heated to drive off the mercury, a somewhat spongy gold layer was left behind. This could be burnished to a highly reflective sheen.

Masterpieces of Metal Sculpture

The Carolingian statuette of *Charlemagne* or *Charles le Chauve* (Charles the Bald) (Photo 6.1) was cast in bronze in the ninth century (restored in the eighteenth century) and was formerly gilded. This equestrian statuette, from the Cathedral of Metz, perpetuates the image of the Roman emperor on horseback, as seen in the statue of Marcus Aurelius on the Capitoline Hill in Rome. This was cast using metal in a hot, liquid state. Because the metal contracts as it cools, even a small piece like this, only 9 1/4 inches (23.5 cm.) high, is unlikely to be solid but is instead hollowed out, to minimize the possibility of cracking while cooling, as well as to minimize the amount of metal used.

The image of *Jesus Crucified* on the front cover of the *Lindau Gospels* (Photo 6.2) was created during the Carolingian era, c. 880, of gold, semi-precious stones, and pearls. One of the most sumptuous of all book covers, this was made in northern France in the Reims School style. The relief figures were formed using the repoussé technique, producing the impression of thick gold when, in fact, this is a thin sheet. The stones



Photo 6.1 *Charlemagne* or *Charles le Chauve* (Charles the Bald), from the Cathedral of Metz, Carolingian, ninth century (restored in eighteenth century), bronze, previously gilded, h. 9 1/4 in. (23.5 cm.). Musée du Louvre, Paris (OA 8260). Réunion des Musées Nationaux/Art Resource, NY.

are not set into the surface of the gold but are instead raised up on little feet (some almost an inch) so that light will pass through them, maximizing their glitter and brilliance. A rich variety of colors, shapes, and patterns are created, including the heavily jeweled border and four jeweled medallions between the arms of the cross. Jesus does not suffer on the cross; instead, his pose and gesture suggest that he is standing and speaking. Each of the small angels is adapted to the space available.

An important example of large-scale gold repoussé is seen in the *Golden Altar Frontal* (*antependium*), an accomplishment of the succeeding Ottonian era, made in Germany, perhaps at Fulda, of gold, precious and semi-precious stones, pearls, glass, and *niello* on an oak core with wax stuffing (Musée National du Moyen Age, Paris). Unusually large, it measures 39 3/8 × 70 1/16 inches (100 × 178 cm.). This altar frontal was ordered by the German Emperor Henry II around 1015. Left to right, the figures represent Saint Benedict, the archangel Michael, Jesus with Emperor Henry II and Empress Cunegonde at his feet, and the archangels Gabriel and Raphael. Depicted in the Byzantine style, the



Photo 6.2 *Jesus Crucified*, front cover of *Lindau Gospels*, Carolingian, Court School of Charles the Bald, c. 880, gold, semi-precious stones, and pearls, $13 \frac{3}{4} \times 10 \frac{1}{2}$ in. (34.9×26.7 cm.). Pierpont Morgan Library, New York (M.1). The Pierpont Morgan Library/Art Resource, NY.

figures seem to be suspended, hovering with their dangling feet, neatly organized by the Romanesque arcade. The cardinal virtues are in the corners among foliage. Two metaphorical verses about the figures are included. This altar frontal had been commissioned for a Benedictine abbey (Saint Benedict is among the figures depicted), but Henry II gave it to the Cathedral of Basel before 1019.

Not only gold but also, and more frequently, silver was worked in repoussé. This technique is demonstrated by a *Processional Cross* made in Asturias in northern Spain during the late eleventh or early twelfth century (Metropolitan Museum of Art, New York). Supported by a wooden core, this cross is constructed of sheets of silver, the high relief figures hammered out from the back in repoussé, and then embellished with parcel gilt, filigree, and gems. The cross once contained a relic in an opening above Jesus's head. The door to this recess was made of a crystal cabochon that protected the relic inside while also permitting it to be seen.

The medieval cult of relics, the quest for relics, and the subsequent need for reliquaries in which to protect and display these valued items—especially those believed capable of producing miracles—provided



Photo 6.3 *Reliquary Head of Saint-Yrieix*, French, Limoges, contained the skull of sixth-century Saint-Yrieix, second quarter of the thirteenth century, from the Church of Saint-Yrieix-la-Perche, walnut wood core and covering of gilded silver with collar of rock crystal, gems, glass cabochons, and filigree. The Metropolitan Museum of Art, New York. Gift of J. Pierpont Morgan, 1917 (17.190.352a, b). Image E69, The Metropolitan Museum of Art.

opportunities for metalworkers to create masterpieces using the most valuable materials. The *Reliquary Head of Saint-Yrieix* (Photo 6.3), from the Church of Saint-Yrieix-la-Perche, was made in the second quarter of the thirteenth century, in Limoges. It was carried through the streets, much like a processional cross, on feast days when local saints such as Yrieix were venerated. Reliquaries were sometimes made in the shape of the relic contained within; thus, this once housed the skull of Saint-Yrieix, the sixth-century founder of a monastery in the town of Saint-Yrieix, south of Limoges. A carved walnut wood core is covered with gilded silver and the collar is formed from rock crystal, gems, glass cabochons, and filigree.

An especially appealing type of medieval metal object, routinely cast in the lost-wax technique, is the *aquamanile* (plural, *aquamanilia*). As the name suggests with its combination of the Latin for “water” and “hands,” they are water pitchers used for washing the hands in churches before Mass as well as in homes before meals. Aquamanilia appear as a distinct category of objects from the eleventh or twelfth to the fifteenth century, and were made especially in northern Germany and Lower Saxony. Today, X-radiography is used to understand how the aquamanilia were



Photo 6.4 *Knight on Horseback*, aquamanile, German, made in Lower Saxony, mid- to late thirteenth century, copper alloy, $14 \frac{3}{4} \times 12 \frac{5}{8} \times 5 \frac{9}{16}$ in. ($37.5 \times 32 \times 14.2$ cm.). The Metropolitan Museum of Art, New York. Gift of Irwin Untermyer, 1964 (64.101.1492). Image © The Metropolitan Museum of Art/Art Resource, NY.

manufactured, including construction of the core and use of armatures, pins, and plugs. Aquamanilia are usually in the form of animals, some fantastic, others factual, among which the lion was represented most frequently.

The *Knight on Horseback* aquamanile (Photo 6.4) is a German example, made in Lower Saxony in the mid- to late thirteenth century, cast in the lost-wax technique using a copper alloy. This equestrian knight, a characteristically medieval subject, wears the kind of armor used prior to the third quarter of the thirteenth century. The helmet is accurately recorded with eye slits and breathing holes. He is thought to have originally held a shield and lance.

An aquamanile in the form of *Samson and the Lion*, from northern Germany, perhaps Hildesheim, was cast in the mid-thirteenth to early fourteenth century (Museum of Fine Arts, Boston). This aquamanile is made of leaded latten which is a copper alloy. The specific composition of the

metal has been analyzed and consists of 81.7 percent copper, 9.9 percent tin, 7 percent lead, and 1.4 percent zinc. Medieval aquamanilia were probably not gilded but were instead polished to a sheen. The *Samson and the Lion* aquamanile is chased and ornamented with engraved designs and punched circles. The story of Samson's battle with a lion comes from Judges 14:5-6. Here Samson straddles the animal's back as he pries open its mouth. The top of Samson's head once had a hinged cover that could be raised to fill the pitcher with water, which issues from a spout in the form of a small animal head located under the lion's left ear, when the aquamanile is lifted by grasping Samson's body. Other aquamanilia often make clever use of an animal's physiognomy with the mouth serving as the spout and the tail as the handle.

Although some examples of medieval metalwork may be assigned to a category or type, such as the many aquamanilia, other examples are entirely unique. It has already been noted that in accord with the medieval love of visual richness, metals might be combined with a variety of other materials, including niello, rock crystal, precious stones, and pearls. A sumptuous and celebrated example of metalwork that combines not only several luxury materials but also several artistic techniques is the *Madonna and Child of Jeanne d'Évreux* (Color plate 13), made in Paris, 1324–1339. This exquisite figurine was given in 1339 to the royal abbey of Saint-Denis by the queen of France, Jeanne d'Évreux, widow of Charles IV le Bel (r. 1322–1328). Mary gracefully turns and tilts her head toward her child. She is dressed as a fourteenth-century French queen. The drapery is supple, soft, and elegant, revealing the shape of her body beneath. The emotion conveyed by Mary's maternal tenderness is a Gothic characteristic. The unusually large figure measures 26 inches (68 cm.) tall with the pedestal and is formed from gilded leaves of silver, basse taille enamel on gilded silver, pearls, garnets, sapphires, glass, and rock crystal. Unlike the head of Saint-Yrieix, this is made without a wooden support. Mary holds the semi-nude infant Jesus on her left arm and a fleur-de-lis in her right hand. The flower is actually a reliquary—it contains what are said to be bits of the hair, clothing, and even milk of the Virgin Mary! To the medieval mind, the reliquary aspect of the piece was of extreme interest, surpassing even the appeal of the valuable materials and superb technical quality of the work. The fleur-de-lis is made of rock crystal and gold, with green translucent enamel, pearls, and cabochons. A hole at the border of Mary's veil indicates she once wore a crown. Mary stands on a

rectangular base that is supported on four little crouching lions under the corners. On the corners are enameled plaques representing the arms of the queen and an inscription identifying her as the donor. The translucent basse-taille enamel panels (discussed in Chapter 7) on the base depict scenes from the lives of Mary and Jesus. These scenes are separated by colonettes supporting minuscule statuettes unrolling scrolls as they stand under tiny Gothic canopies.

In addition to combining various materials, several working techniques may be combined on a single object. An example, the *Scepter of King Charles V*, created in 1365 for his coronation (Musée du Louvre, Paris), was part of a group of royal objects referred to as “regalia,” conserved at the royal abbey of Saint-Denis until the French Revolution of 1789. Metalworking techniques used on the scepter are repoussé, described above, in which the metal is hammered out from the back; as well as *gravure*, in which a design is engraved on the surface; and *ciselure*, in which the metal is chiseled or carved, much like sculpture, into the desired shape, was also employed. The scepter consists of four distinct parts. From the bottom up, first is the staff or *bâton*, engraved with stylized fleur-de-lys. Second is the *noeud* or *knop*, which is a decorative knob or bump that makes the staff (or other item such as the stem of a goblet or candlestick) easier to grasp, bordered top and bottom with pearls and cabochons. The surface of the spherical knop is divided into three medallions representing the legend of Charlemagne. Third is the fleur-de-lys that was originally covered in opaque white enamel and would have looked much like an actual lily. This is one of the earliest examples of enamel on *ronde bosse*—that is, on three-dimensional sculpture (discussed in Chapter 7). Fourth, emerging from the fleur-de-lys, is a statuette—not of Charles V—but of Charlemagne enthroned, an association intended to enhance the authority of Charles V.

Charles V of France sought to associate the power of the Valois with the illustrious Charlemagne, much as Charlemagne (Photo 6.1) had sought to associate himself with the great emperors of Roman antiquity. Thus the scepter is important not only as a work of art and a display of combined materials and methods, but also as an example of the use of art to promote political power through symbolic and historic association. The scepter was given to Saint-Denis in 1380 by the king and described at that time as one of the objects prepared for the “consecration of the kings of France.” This scepter was used for coronations from the consecration of Charles V to that of Napoleon I.



Photo 6.5 *Five Angels Encircling a Stag*, plate, Walloon or German (Lower Rhine), last quarter of the fifteenth century, brass (*dinanderie*), d. 18 3/4 in. (47.1 cm.). The Metropolitan Museum of Art, New York. Gift of Irwin Untermyer, 1964 (64.101.1505). Former owner: William Randolph Hearst, San Simeon, California.

A special type of medieval metal relief is known as *dinanderie*, an example of which is provided by a depiction of *Five Angels Encircling a Stag* (Photo 6.5) on a brass plate from Wallonia or Germany (Lower Rhine), dated to the last quarter of the fifteenth century. Throughout the Middle Ages, the city of Dinant on the Meuse River led in the production of items made of brass, copper, and bronze. Such productivity was possible because the materials needed for this kind of manufacture were readily available: zinc, clay to make molds, and calamine that was mixed with copper to make brass. Particularly after Dinant was captured by the Duke of Burgundy in 1466, the metalworkers began to establish themselves in nearby towns, including Aachen and Nuremberg, which were to thrive. The method of working the brass used to form the dinanderie plates, a number of which have survived, requires the metal to be “beaten and stamped,” explains Theophilus. Describing how this is done, he instructs his reader to beat the metal into the shape needed. Then the design is created by additional tapping of the metal and may be done with the aid of a die. The die, which was probably made of lead, was placed on the underside of the plate and then carefully struck until the design of the die was transferred to the plate. Theophilus advises his reader to finish the piece with fine work done “with small tools.”

Materials and Methods of Wood and Stone Sculpture

Because wood and stone sculpture are media that are not characteristic solely of the Middle Ages, but were common throughout many other eras, they are only treated briefly here. A work of sculpture described as “in the round” is free-standing and may be seen from all sides, whereas one described as “in relief” has figures and forms that project from and are attached to a background. Relief sculpture may be identified according to the degree of projection from the background. The very lowest relief, in which the variations in surface level may be no greater than the thickness of a sheet of paper, and are best seen under a raking light, is called *crushed relief*, known in Italian as *rilievo stacciato* or *rilievo schiacciato*. *Low* or *shallow relief* in which there is only slight projection and all parts are attached to the background is called *bas-relief* or, in Italian, *basso-rilievo*. *Middle relief*, also known as *half-relief* or *demi-relief*, in which the figures project further from the background, is called *mezzo-rilievo* in Italian. *High* or *deep relief*, in which the figures project at least half their circumference, is called *alto-rilievo* in Italian.

The basic tools used by medieval sculptors working in wood and stone were the chisel and mallet, much as had been used in antiquity and continue to be used today. The technique lies largely in the skilled hands of the sculptor using these simple tools. The ability to control the amount of force exerted and the direction of the blow to the chisel are skills learned through the medieval sculptor’s years of training under the guidance of a master sculptor.

Wood

Different types of wood were used at different times during the Middle Ages and in different geographic areas according to availability. Woods vary considerably in terms of their softness or hardness, how open or fine the grain is, and color. Both hard and soft woods were carved. Wood used for fine sculpture must be internally uniform in consistency, without hard or soft spots that would cause difficulty controlling the carving. The finer the wood grain, the finer the details that may be carved. Wood used for sculpture must be permitted to age until thoroughly dry and seasoned, to avoid later cracking or even splitting. Seasoning may be accelerated by the use of heat, but the result is less stable.

The scarcity of extant medieval sculpture in wood is due to the general loss of medieval art over the centuries, but especially to the simple

fact that wood is not a particularly durable material. Wood is subject to warping, cracking, rot, decay, and insects—medieval sculptures of wood that have survived to the present day are likely to be riddled with tiny worm holes. Yet good wood will last indefinitely if maintained under favorable conditions, as demonstrated by ancient Egyptian examples.

Medieval wood sculpture was usually painted in polychrome and sometimes gilded. The artist began by covering the wood with layers of gesso to smooth the rough surface. If the surface is very uneven, canvas may be used under the gesso in these areas, thus treating the surface of a wooden sculpture in much the same way as a wooden panel is prepared prior to painting. The recesses are filled in, first using *gesso grosso*, which means “thick gesso” in Italian. This is followed by a layer of *gesso sottile*, which means “thin gesso” and is the finest gesso, used for finishing. Gesso shrinks as it dries to form a very thin film that does not hide the delicately carved forms beneath. This smooth gesso surface may then be painted with various colors; the medieval preference was for vivid saturated polychrome.

The problems faced by a sculptor who carves in wood differ from those of a sculptor who carves in stone. Greater physical strength is needed to carve in stone, but due to the fact that wood grain resists inconsistently under the chisel, depending on whether the sculptor cuts with or across the grain, it may be argued that greater physical control is required when carving wood.

Stone

Large-scale stone sculpture, after its great popularity during Roman antiquity, was not characteristic of the early Middle Ages. With few exceptions, free-standing stone figures in the round were not carved and stone relief was usually restricted to carvings on sarcophagi. A return to large-scale stone sculpture is seen in the Romanesque era, initially focusing on reliefs carved on church portals and column capitals. Thereafter, the potentials of stone sculpture were fully utilized in the Gothic era, the figures increasing in scale, realism, and emotional impact.

Much as the kind of wood selected by a sculptor impacts the working method used and the appearance of the finished piece, the same is true of the relationship between the type of stone selected and the sculpture created. Soft stone offers the sculptor ease of manipulation. Hard stone, although difficult to carve due to resistance under the chisel, offers greater durability. The texture of a stone must be appropriate for the scale

of the sculpture; a grainy stone lends itself to broad forms, while a smoothly-grained stone is more suitable for fine details. Nature provides stone in a wide range of colors, and may be of a solid color or veined. Good stone is consistent in texture and free of interior flaws. The types of stone used most often by medieval sculptors are marble, limestone, and alabaster.

Marble is the traditional choice for fine stone sculpture. Marble and limestone are closely related chemically and geographically as both are basically calcium carbonate. Although the chemical composition is similar, they differ in crystalline structure and, therefore, appearance. Marble is less grainy, harder, and requires greater physical force to carve. The smooth crystalline structure of marble allows it to be highly polished to a shine. Different areas of the surface of a marble sculpture may be finished in different ways. Although marble is usually nearly white, it also occurs in a range of colors. Marble is not sufficiently durable for exterior sculpture because it is affected by acidic impurities in the atmosphere. Even the finest block of marble may have unseen flaws inside called "pinholes."

Limestone is a granular crystalline stone, softer than marble and consequently more easily carved. It is usually cream-colored but may also be variously colored or veined. Limestone may be polished to a matte surface, but not to the glossy shine of marble. Limestone is suitable for the broad forms of large-scale interior and exterior architectural sculpture meant to be seen from a distance. Sandstone, like limestone, is also calcium carbonate and is often used in building construction. Chalk is also chiefly calcium carbonate.

Alabaster is white or slightly tinted gypsum (calcium sulfate). Its delicate color and surface make it appropriate for the finest carving. It is too soft to use out-of-doors.

Masterpieces of Wood and Stone Sculpture

The subject of the *Madonna and Child Enthroned* with Mary holding the infant Jesus on her lap was depicted many times during the Romanesque era in much the same manner. Such figures are found wherever medieval art flourished and were made in all medieval sculptural media—ivory, metal, stone, and wood—although especially in wood and especially during the twelfth century. An example is that from the Auvergne, carved in the second quarter of the twelfth century (Musée du Louvre, Paris). The bodies are peculiarly proportioned with Mary's head

unnaturally large and Jesus both looking and acting like a miniature man as he makes a gesture of blessing. Formal and stiff, these figures are intended to convey abstract religious ideals, in this case the notion of the Throne of Wisdom, the omniscient God seated on his mother's lap, rather than to duplicate observed reality. The lack of realism so characteristic of medieval sculpture prior to the Gothic era is not due to a lack of skill. Rather, medieval sculpture maintains an extremely high level of technical proficiency, favoring displays of manual dexterity, especially in the multitude of exquisite but unnatural drapery folds of the garments of Mary and Jesus.

The history of large-scale medieval stone sculpture was noted above to begin only in the Romanesque era. The most famous of the Romanesque tympana are the *Mission of the Apostles*, 1120–1132, at the church of Sainte-Madeleine in Vézelay and the *Last Judgment*, c. 1120/1125–1135, signed by the sculptor Gislebertus at the Cathedral of Autun. In both, as is typical of Romanesque *tympana* (singular, *tympanum*; the semi-circular section above a doorway), a large figure of Jesus is surrounded by a mandorla in the center. Romanesque figures are likely to be animated if not agitated, distorted and contorted, the bodies often abnormally elongated and posed to accommodate the space available. Highly expressive, the absence of an allegiance to realistic representation is used to enhance the impact of the religious narratives related.

The transition from Romanesque to Gothic is seen on the Royal Portals of the west facade of Chartres Cathedral, 1145–1155. Here, a series of figures represent the physical and spiritual *Ancestors of Jesus*. They are *column figures*, thus called because they are columnar in shape, each attached to a column, and are part of the architecture. They retain the Romanesque elongated bodily proportions. But now the many figures stand calmly side by side. Perhaps they would be more accurately described as hovering rather than standing, as their feet dangle, the human body treated as if weightless. The many small vertical pleats of their drapery mimic the fluting of a column, emphasizing their architectural role.

The *Visitation* was carved in stone on the west facade of the Cathedral of Notre-Dame, Reims, in the 1230s (Photo 6.6). These large figures, although attached to the architecture, seem to have come to life, moving freely in space as they interact with one another. Mary, pregnant with Jesus, is depicted with her cousin Elizabeth, pregnant with John the Baptist, as they meet and exchange this news. Now the many small folds of their drapery reveal their swaying movements, while simultaneously



Photo 6.6 *Visitation*, French, stone, 1230s, Cathedral of Notre-Dame, Reims, west facade. Author's photo.

creating a complex decorative surface pattern. Elizabeth is said to have been older than Mary and the sculptor has skillfully differentiated the ages of the two women.

Progressively more artists are known by name during the Gothic era. The Italian sculptor Nicola Pisano (active 1250–1278) created a marble pulpit for the Baptistry of Pisa, 1259–1260, with several surrounding rectangular relief panels. In the scene of the *Nativity* (Photo 6.7), he depicts a large recumbent Mary rendered in a style influenced by the antique, surrounded by vignettes that tell a complete story. Thus the Annunciation in the upper left depicts Mary's apprehensive response to Gabriel's message. Two midwives bathe the newborn Jesus in a large basin in the center front. Jesus appears twice on this panel as he is also swaddled in his bed toward the upper right, watched over by the ox and the ass. The Annunciation to the Shepherds takes place in the upper right, their sheep shown in the lower right. Joseph sits in the lower left. The three-dimensional figures bulge outward in the compact and crowded composition. In this charming narrative, emphasis is placed on the clarity of the message rather than the realism with which it is depicted.



Photo 6.7 Nicola Pisano (active 1250–1278), *Nativity*, 1259–1260, marble, 33 1/2 × 44 1/2 in. (85.1 × 113 cm.), panel on pulpit, Baptistery, Pisa. Scala/Art Resource, NY.

A clever use of combined materials in sculpture is offered by another depiction of the *Visitation* (Color plate 14), which provides an interesting comparison with the stone example of this subject just discussed. Attributed to Master Heinrich of Constance, a German artist active in Constance beginning around 1300, this walnut wood sculpture is believed to have been made around 1310. The figures of Mary and Elizabeth are carved and then polychromed and gilded, as was customary. But, exceptionally, their abdominal cavities were hollowed out and contained little figures of Jesus and John the Baptist, now gone. In this engaging (although anatomically incorrect) depiction, the exteriors of the abdomens were made of transparent rock crystals, permitting the viewer to see the babies inside their mothers' wombs.

A very different kind of emotion is conveyed by the poplar wood sculpture of *Jesus Crucified* (Photo 6.8), also from Constance, carved c. 1360. Unlike the image of Jesus triumphant over death on the cover of the ninth-century Carolingian *Lindau Gospels* (Photo 6.2), this fourteenth-century Gothic depiction shows Jesus suffering in death—his head drops forward and his body is gaunt and emaciated, the weight of the body hanging heavily from the arms. The arms are separate pieces of



Photo 6.8 *Jesus Crucified*, Bavarian, German, from Constance, c. 1360, poplar wood, 65 15/16 × 60 11/16 in. (167 × 154 cm.). Germanisches National Museum, Nuremberg. The Bridgeman Art Library International.

wood, enabling the sculptor to create a more open form. Wood is the appropriate choice of sculptural medium to create a figure in this pose. A figure made of heavy breakable stone cannot be posed with the arms extended, although one could be cast in metal, which has great tensile strength.

A subject frequent in later medieval art that was often carved of wood is the *Pietà*, which means “pity,” and portrays Mary with her dead son, Jesus, in her lap. In contrast to the warm emotional appeal exerted by the many depictions of Mary and the infant Jesus, for example, the French *Madonna and Child of Jeanne d’Évreux* (Color plate 13), the subject of the *Pietà* is intended to provoke feelings of pity for Mary and grief for her dead son. A late fourteenth-century fascination with the grotesque aspects of death made the *Pietà* a popular subject especially in Germany. For example, the German *Pietà* carved in the Rhine Valley, c. 1375–1400, of poplar wood with polychromy and gilt (The Cloisters, New York), is meant to touch the viewer’s emotions, evoking powerful but unpleasant feelings.

Late Gothic sculpture made progressively greater use of the surrounding space, emphasizing interaction with the viewer. Claus Sluter (c. 1360–1406) created a portal to the chapel of the Carthusian monastery of Champmol, Dijon, 1385–1393. Now the architecture serves only as a background for the large stone figures. The standing *Madonna and Child* are carved on the central trumeau. To the left of the left door, Duke Philip the Bold kneels as his patron saint stands behind him. To the right of the right door, Duchess Margaret kneels as her patron saint stands behind her. These figures turn and look at Mary and Jesus across the space of the doorways. The visitor entering the chapel interrupts their gazes, thereby relating to the Madonna and Child in much the same way as the Duke and Duchess do through space. Now part of the composition, space has been utilized, activated, animated. The level of realism increases as Sluter shows his understanding of the free movement of the body through space and of the relationship of the drapery to the body beneath. The Duke and Duchess are also actual portraits—portraiture reappears in the fourteenth century for the first time since late antiquity.

In conclusion, the versatility of medieval artistry is demonstrated by sculpture created from a variety of materials such as metal, wood, and stone, using a range of working methods. Medieval sculpture was routinely colored, but pigment on exterior sculpture rarely survives. In the following chapter, the application of durable brilliant colors to metal objects, through the use of cloisonné and champlevé enamel, is examined.

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Color Plate 1 *Saint John*, folio preceding the *Gospel of St. John*, in the *Book of Kells*, Irish, probably c. 800, manuscript illumination, 13 × 9 1/2 in. (33 × 24 cm.). Trinity College, Dublin (MS 58, folio 291 verso). © The Board of Trinity College, Dublin, The Bridgeman Art Library.



Color Plate 2 *Saint Mark*, folio in the *Gospel Book of Archbishop Ebbo of Reims*, illuminated for Archbishop Ebbo, French, early ninth century (816–835), manuscript illumination, 10 1/4 × 7 3/4 in. (26 × 19.7 cm.). Bibliothèque Municipale, Eprenay (folio 18 verso). Art Resource, NY.



Color Plate 3 *Unicorn*, folio in the *Workshop Bestiary* (Workshop Priory), English, perhaps Lincoln or York, prior to 1187, manuscript illumination, 8 1/2 × 6 1/8 in. (21.5 × 15.5 cm.). The Pierpont Morgan Library, New York (MS M.81, folio 12 verso). The Pierpont Morgan Library/Art Resource, NY.



Color Plate 4 Limbourg brothers (Pol, Herman, and Jean), *Month of January*, folio in *Les très riches heures du duc de Berry*, French, 1413–1416, manuscript illumination, 11 1/2 × 8 1/4 in. (29.2 × 21 cm.). Musée Condé, Château of Chantilly, Chantilly (MS 65, folio 1 verso). Photo: R.G. Ojeda; Réunion des Musées Nationaux/Art Resource, NY.



Color Plate 5 Bonaventura Berlinghieri (fl. 1228–1274), *Saint Francis and Scenes from his Life*, Italian, 1235, egg tempera and gold leaf on wooden panel. San Francesco, Pescia. The Bridgeman Art Library.



Color Plate 6 Jan and Hubert van Eyck, *Ghent Altarpiece*, polyptych with the *Adoration of the Mystic Lamb*, overview of inside, Flemish, finished 1432, egg tempera and oil on wooden panels, 11 ft. 5 3/4 in. × 15 ft. 1 1/2 in. (3.4 × 4.6 m.). Church of Saint Bavon, Ghent. Erich Lessing/Art Resource, NY.



Color Plate 7 *Noah's Ark*, French, c. 1100, distemper on plaster, abbey church, Saint-Savin-sur-Gartempe, nave vault. The Bridgeman Art Library.



Color Plate 8 Overview of nave of San Francesco, Assisi, upper church, painted late thirteenth century, looking from the crossing into the nave. Author’s photo.



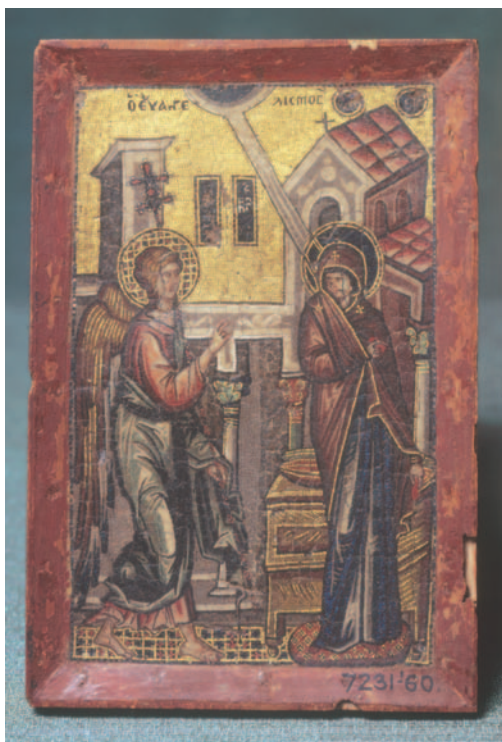
Color Plate 9 Ambrogio Lorenzetti (fl. c. 1311–1348), overview of Sala della Pace (containing frescoes of *Good and Bad Government*), Italian, 1338–1340, fresco buono, Palazzo Pubblico, Siena. Scala/Art Resource, NY.



Color Plate 10 *Harvesting Grapes and Making Wine*, c. 350, mosaic, Santa Costanza, Rome, ambulatory vault. Author's photo.



Color Plate 11 *Emperor Justinian and his Attendants*, c. 547, mosaic, San Vitale, Ravenna, north wall of the apse. Cameraphoto Arte, Venice/Art Resource, NY.



Color Plate 12 *Annunciation*, Byzantine, c. 1310–20, miniature mosaic, tesserae of gold, silver, lapis lazuli, and other semi-precious stones set into wax on a wood base, 6 × 4 in. (15.2 × 10.2 cm.). Victoria and Albert Museum, London (7231–1860). Victoria and Albert Museum, London/Art Resource, NY.



Color Plate 13 *Madonna and Child of Jeanne d'Évreux*, French, made in Paris, 1324–1339, gilded leaves of silver, basse taille enamel on gilded silver, pearls, garnets, sapphires, glass, and rock crystal, h. 26 in. (68 cm.). Musée du Louvre, Paris (MR 342; MR 419). Photo: M. Beck-Coppola, Réunion des Musées Nationaux/Art Resource, NY.



Color Plate 14 Attributed to Master Heinrich of Constance (active c. 1300 f.), *Visitation*, German, c. 1310, walnut, polychrome, gilding, rock-crystal cabochons set in silver-gilt mounts, overall dimensions $23 \frac{1}{4} \times 11 \frac{7}{8} \times 7 \frac{1}{4}$ in. ($59.1 \times 30.2 \times 18.4$ cm.). The Metropolitan Museum of Art, New York. Gift of J. Pierpont Morgan, 1917 (17.190.724). Image © The Metropolitan Museum of Art.



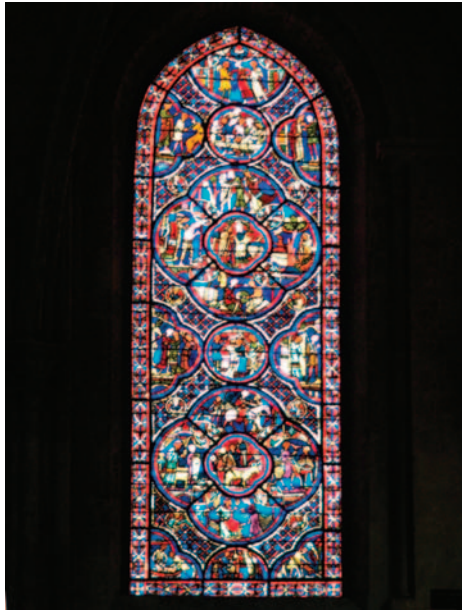
Color Plate 15 *Reliquary of the True Cross*, Fieschi Morgan Stauerotheke, Byzantine, late eighth to early ninth century, cloisonné enamel, silver, silver-gilt, gold, niello, $4 \times 2 \frac{7}{8}$ in. (10.2×7.3 cm.). The Metropolitan Museum of Art, New York. Gift of J. Pierpont Morgan, 1917 (17.190.715ab). Image © The Metropolitan Museum of Art.



Color Plate 16 *Bride and Groom*, engagement brooch of Maximilian I and Mary of Burgundy, 1476, émail en ronde-bosse (encrusted enamel), gold, and pearls. Kunsthistorisches Museum, Vienna. Erich Lessing/Art Resource, NY.



Color Plate 17 Lower portion of *Life of Jesus* window, c. 1150, stained glass, Cathedral of Notre-Dame, Chartres, west facade. Bridgeman-Giraudon/Art Resource, NY.



Color Plate 18 *Story of the Prodigal Son*, 1215–1225, stained glass, Cathedral of Saint-Etienne, Bourges, window in apse (overview). Author's photo.



Color Plate 19 *Jesus Crucified*, c. 1270 or end of thirteenth century, stained glass combined with grisaille glass panels, Saint-Urbain, Troyes, window in choir (overview). Author's photo.



Color Plate 20 *Annunciation to Mary*, from Cologne, c. 1450, stained glass window. Musée National du Moyen Age, Thermes de Cluny, Paris, Inv. CL.3283. Photo: Franck Raux. Réunion des Musées Nationaux/Art Resource, NY.



Color Plate 21 *Battle of Hastings* from the *Bayeux Tapestry*, late eleventh century, embroidery on linen. Musée de la Tapisserie, Bayeux. Erich Lessing/Art Resource, NY.



Color Plate 22 *Unicorn at the Fountain*, from the set of tapestries known as the *Hunt of the Unicorn*, Franco-Flemish, woven in Brussels, c. 1500, wool and silk with metallic threads. The Metropolitan Museum of Art, The Cloisters Collection, New York. Gift of John D. Rockefeller, Jr., 1937 (37.80.2). Image © The Metropolitan Museum of Art.



Color Plate 23 *Courtiers*, from the set of tapestries known as the *Rose Tapestries*, French, court of Charles VII, south Netherlandish, woven in Arras or Tournai c. 1450–1455, wool warp with wool, silk, and metallic weft yarns, 9 ft. 5 3/4 in. × 10 ft. 8 in. (288.9 × 325.1 cm.). The Metropolitan Museum of Art, New York. Gift of John D. Rockefeller, Jr., 1937 (09.137.2). Image © The Metropolitan Museum of Art.



Color Plate 24 *Mary with the Infant Jesus*, detail from the *Clare Chasuble*, English, c. 1272–1294, embroidery. Victoria and Albert Museum, London. The Bridgeman Art Library International.



Color Plate 25 *Chicester-Constable Chasuble*, back, English, London (?), c. 1330–1350, opus anglicanum, silver and silver-gilt thread, colored silks in under-side crouching, split stitch, laid-and-couched work, and raised work, with pearls, on velvet, 51 × 30 in. (129.5 × 76.2 cm.). From bottom to top: *Annunciation*; *Three Kings Adoring the Infant Jesus*; and *Mary and Jesus Enthroned*. The Metropolitan Museum of Art, The Cloisters Collection, New York. Fletcher Fund, 1927 (27.162.1). Image © The Metropolitan Museum of Art.



Color Plate 26 Cope, bearing the arms of the Duke of Burgundy, south Netherlandish, c. 1476, velvet with applied embroidery, Bernisches Historisches Museum, Bern. The Bridgeman Art Library International.



Enamel: Cloisonné and Champlevé

Enamel is a very old medium—objects decorated with melted vitreous paste survive from ancient Egypt’s Middle Kingdom in the second millennium BCE. Very popular during the Middle Ages, enamel was used on items such as reliquaries, altarpieces, crucifixes, plaques, and a variety of vessels.

Relics, Reliquaries, and Pilgrimages

Most of the objects made with enamel during the Middle Ages were intended for use in conjunction with Church ritual. A significant number of these objects were reliquaries, used to contain, protect, and sometimes even display relics, which are mementoes or keepsakes—tangible physical evidence of Jesus, Mary, or a saint. Although the relic might be something they owned or used or with which they had contact, more often it was a part of their body including blood and breast milk. Some relics were believed to have special power and even to be capable of working miracles.

People went to great lengths and spent vast sums of money to obtain relics, which were among the most important items owned by medieval churches. Due to the importance accorded the early Christian martyrs, the catacombs were combed for relics. Throughout the Middle Ages, there was trafficking in stolen relics. And certainly fake relics abounded: Paul Williamson wrote in the catalog of the Victoria and Albert

Museum, London, "There are several thousand saints who, if one took the trouble to assemble their putative remains, would end up with more than one head and a most irregular number of limbs."

The great significance of relics in the social and religious context of the Middle Ages explains their prominent display in suitably splendid surroundings in reliquaries and shrines made of the finest materials by skilled goldsmiths, metalworkers, and enamelers. There was no limit to which this concept might be taken. The entire Church of San Marco in Venice was regarded as a huge reliquary constructed for the body of Saint Mark the Evangelist, which was brought to Venice in the early ninth century from Alexandria by Venetian merchants. Similarly, the Sainte-Chapelle in Paris was constructed in the mid-thirteenth century to house relics of Jesus's passion, acquired in Constantinople at great expense and after lengthy negotiations by King Louis IX of France.

Indeed, relics were of great financial value. In addition to the monetary worth attributed to the relics themselves, churches that possessed important relics attracted pilgrims and their donations. Pilgrims created a commercial market for lodging and food, as well as for souvenirs, which were part of the pilgrimage experience. Filling these needs created industries and often economic prosperity for the towns and cities pilgrims visited along the pilgrimage routes, especially for their destination cities.

Pilgrimages, long, often arduous, and even dangerous, were undertaken by a great many people from all social strata. The most popular pilgrimage site was Rome, where the body of Saint Peter lay beneath the church bearing his name. Santiago de Compostela in northwestern Spain, where the remains of the apostle James were venerated, was also very important. In 1066, Westminster in London acquired the body of Edward the Confessor. In 1087, the body of Saint Nicholas was obtained by the city of Bari in southern Italy. The presumed relics of the three magi were acquired by Cologne in 1164 and displayed in a reliquary shrine behind the altar in the cathedral, turning the city into a major pilgrimage site in northern Europe and contributing to its prosperity. In 1170, Canterbury received the body of Saint Thomas Becket. Jerusalem was also a pilgrim's goal, as were other cities.

In principle, the purpose of the pilgrimage was to visit locations associated with important saints and to pray before their relics, especially if they were miracle-working saints and a miracle was needed. In addition to this religious aspect, there was significant intellectual value to pilgrimages in that they brought people from widely disparate backgrounds and

cultures into contact, facilitating an exchange of ideas and customs. (Pilgrim attire is discussed in Chapter 11.)

Materials and Methods of Medieval Enamels

The enduring appeal of enamel comes from its bright colors, jewel-like appearance, and ability to simulate the effect of precious and semi-precious gems. All forms of enamel are made by applying colored powdered glass in a paste form to a metal support, then firing it at intense heat in a kiln or furnace, causing the glass to melt, fuse into a solid, and adhere to the metal support. Although always valued as a form of colorful embellishment on luxury items and always expensive, the basic material of enamel—glass—is not costly. The two main types of medieval enamel work on metal are *cloisonné* and *champlevé*.

Cloisonné Enamel

The history of cloisonné enamel goes back at least to the fifth-century Franks in northern Gaul and the Rhineland. Frankish jewelry was made with cloisonné inlay on bronze. Thus, glass paste inlay on *fibulae* (pins used to fasten a tunic at the shoulder) simulated the appearance of gems. Surviving Frankish jewelry consists largely of cloisonné on bronze or red glass inlaid in silver.

The fully developed cloisonné method used in the Middle Ages, however, was probably invented by the Byzantines and was definitely a Byzantine specialty. Byzantine cloisonné is usually done on high-carat gold plaques. Gold is soft, pliable, takes high temperatures, and does not tarnish. The Byzantines mined gold on the southwest slopes of the Caucasus.

Information on the enamel techniques used by medieval artists is provided by a manual written in Latin, *De diversis artibus* (*On Diverse Arts*), thought to have been authored by the monk Theophilus Presbyter, who was perhaps Roger of Helmarshausen, discussed in several previous chapters. Theophilus tells his reader how to make enamel of the cloisonné type.

Working on a gold plaque, fine strips of gold are carefully placed to form a design and then soldered or welded in place. These thin strips will separate the enamel colors. The term cloisonné comes from *cloison*, French for “cell” or “partition,” used to refer to each of the small spaces surrounded by the metal strips.

Champlevé Enamel

In contrast to Byzantine cloisonné, champlevé is a western European technique. Champlevé dates back to the ancient Romans and was practiced in several geographic areas, especially those in parts of western Europe that had been conquered by the Romans. Thus examples made by Celts, working on bronze supports, date from the first century to the mid-third century. Late Roman examples have been found near the city of Limoges, which would become a major medieval center for champlevé enamel production.

The many new religious foundations in medieval western Europe produced an enormous demand for liturgical objects. The enamel workers in western Europe who filled this need, lacking the quantities of gold available in Byzantium, worked on less precious metals. Unlike cloisonné done on thin gold, champlevé is done on a thicker plate of copper or bronze. Copper combined with tin and zinc forms bronze (whereas copper combined with zinc alone forms brass). The surface of the copper or bronze plate was gilded to look like solid gold.

The term champlevé comes from the French for “raised ground” or “raised field.” Depressions are made in a thick metal plate; the design is hollowed out or gouged out by cutting with a burin, or grinding out the troughs. Within these recesses, the bottom is roughened using a method called “keying” to make the enamel adhere better. The surface of the plate becomes a design of thin metal ridges. Champlevé is essentially an inversion, or reversal, of the cloisonné technique in the preparation of the metal ground.

After the design is made in the metal, the process is much the same for both cloisonné and champlevé. The recesses are filled with colored glass powder or paste. This is made from flint or sand, red lead, and soda or potash which, when heated, combine to produce a clear flux (glass). While the glass is hot and molten, a coloring agent in the form of a metallic oxide is added: copper produces green; cobalt produces blue; iron produces red or brown. As it cools, the glass solidifies into a slab, which is then ground into a fine powder and washed to remove dirt. The colored glass powder is placed directly into the separate cells on the metal surface as a powder or paste, which must be allowed to dry thoroughly. Usually a single color is applied per cell, although it is not uncommon to find more than one color within a single compartment.

The object is then fired in a kiln or furnace at a high temperature between 700 and 800 degrees centigrade. The powder or paste melts

into a solid, for the enamel vitrifies as it is fired, forming an opaque glassy coating. Several applications and firings may be required to build up a thick enamel coating and wide color range.

When complete, the piece is allowed to cool. The surface is ground against a rotating wheel to smooth out the imperfections and to make the metal flush with the enamel. The rich, radiant, jewel-like colors may be polished to a brilliant lustrous sheen.

Both cloisonné and champlevé enamel work are usually done on fairly small metal objects and plates. To form a big object, such as a tabernacle, metal plates are attached to a core of base metal or wood.

Cloisonné and champlevé, however, each have their own distinctive characteristics. In the cloisonné technique, there are many delicate gold lines, all uniformly thin. In the champlevé technique, there are fewer lines which tend to be irregular in shape and to vary in width. Cloisonné, with its thin gold plate and thin gold wires, is quite fragile. Champlevé, done on a single piece of thicker harder metal, is more durable. Because it is less expensive than cloisonné, champlevé was used for larger items.

A delicate decorative technique used on champlevé enamel on a copper gilt plate consists of a multitude of curving lines incised into the background. The name for this technique, *vermiculé*, derives from a Latin word that refers to the shape of worms or their movement.

Several highly refined types of enamel work were developed from these basic techniques; the materials remained much the same, but the methods were expanded with the *basse-taille*, *plique-à-jour*, and *émail en ronde-bosse* techniques.

Basse-taille (low cut) enamel, a rare technique also known as *bas-relief translucid*, is a method of working with translucent or transparent enamel on metal that may be combined with opaque enamel. The method was invented in the fourteenth century; prior to this, all enamel was opaque. Work is done on silver or gold or gilded silver, which is sculpted, engraved, or chiseled from the front or hammered from the back (*repoussé*) to give the surface a very low relief. This serves both to improve adherence of the enamel and to create a pattern that will be seen through the enamel. Translucent or transparent enamel is applied to this ground in which a pattern has been made. Because the various colors are not divided from each other by metal barriers (as in cloisonné and champlevé enamel), after each color is applied it must be permitted to dry completely before another color is added. Several coats of enamel may be applied. It is then fired in the same manner as is used for other enamel techniques.

The appeal of *basse-taille* enamel is the richness of the effects created. Extremes of subtlety and nuance are possible because the colors appear deeper in the grooves and recesses that were created in the ground. The surface of the underlying metal is important in this technique, for it is intended to show through. The *basse-taille* method was used especially for backgrounds and blue skies, whereas the figures were likely to be left *en réserve* in that they are formed in relief but were reserved from the color.

A disadvantage of *basse-taille* is that, unless the firing process is done with extreme care, a great amount of work is lost. The problem derived from the need to determine exactly the proper firing temperature, complicated by the combination of various types of glass paste that were used for the different colors, each having its own melting point, and made still more difficult by the necessity of avoiding the risk of compromising the base metal if the temperature became too high.

The *plique-à-jour* (*plique* derives from the Latin “plicare” meaning “to fold” or “to roll,” and *jour* is French for “day”) enamel technique is also called *backless cloisonné*. It allows even greater refinement, is still more delicate, and even more difficult to execute. In this rare technique, transparent or translucent enamel is placed into recesses created by a delicate wire framework. The metal backing is removed, allowing light to shine through the enamel. The result mimics the appearance of tiny areas of stained glass, which might even be given the form of traceried windows with quatrefoils. The solid areas were decorated with delicate designs of birds, fruits, and flowers.

Émail en rond-bosse (or simply *rond bosse*), also known as *encrusted enamel*, is a method first seen around 1350. Used to add colorful decoration to very irregular metal surfaces, *émail en rond-bosse* is the appropriate technique to use for applying enamel to small curved surfaces such as those on figurines, objects in the round, or very high relief, made of gold or silver. The surfaces that are to receive the enamel are roughened so that the enamel will adhere well.

Another medieval method of working with enamel is *painted enamel*, usually done on copper, only very rarely on gold or silver. Using a brush, the enamel is painted on in a fluid state. The surface is built up gradually through the application of layers, each fired successively. Unlike other enamel techniques, no special preparation of the ground is required—no soldering on of fences, no gouging out of depressions. Therefore, the colors are not separated by metal divisions. Because painted enamel is very brittle, it could not be used to decorate an

object that received much use. In fact, although enamel itself is hard and durable, only a small percent of the enamels produced in the Middle Ages have survived intact—most have been damaged, melted down, or lost.

Masterpieces of Enamel

Cloisonné Enamels

An exquisite example of Byzantine enamel, a little *Reliquary of the True Cross* in the shape of a small box (Color plate 15), was made of cloisonné, silver gilt, and niello (niello is discussed in Chapter 6), in the late eighth to early ninth century. The *Crucifixion*, portrayed on the sliding lid, shows Jesus alive and accompanied by Mary and John. On the sides of the box are busts of the apostles, Church fathers, and saints. Although the style of the figures is awkward, the technical skill is superb, especially given the very small scale—this little box is only 4 inches (10.2 cm.) long. It was probably kept inside at least one other box. As the innermost box actually containing the relic, it was made of the most valuable materials and was the most elaborately ornamented.

Byzantine enameling reached its peak between the ninth and eleventh centuries. An especially splendid Byzantine *Reliquary of the True Cross* was made of gold with cloisonné and precious stones in the mid-tenth century (Cathedral treasury, Limburg-on-the-Lahn). The inscription says it was made for Basil (the illegitimate son of Emperor Romanos I Licapenos, r. 920–948). The True Cross of Jesus was one of the most important Christian relics; over 1,100 reliquaries containing what are claimed to be pieces of the True Cross are known.

Notable examples of cloisonné created contemporaneously include the two *Chalices of the Emperor Romanos*, both made from ancient stone cups, embellished with mountings of silver-gilt and cloisonné enamel on gold, this work done in Constantinople between 959 and 963. One chalice includes glass and the other includes pearls, and one has handles while the other does not (both are in the Treasury, San Marco, Venice).

A plaque of *Saint Michael*, Byzantine work from Constantinople, was made at some point between the late tenth and early twelfth century of cloisonné enamel on gold, with silver-gilt, glass, precious stones, and pearls that are now missing (Treasury, San Marco, Venice). The story of the archangel Michael, who leads the battle in heaven against Satan, is related in Saint John's *Book of Revelation* (*Apocalypse*). Although Michael's

proportions are childlike and spindly; he is winged, armed, and adorned with an elaborate halo. The overall visual effect is flat and decorative. No interest in creating an illusion of the real world as known through the senses is evidenced. Instead, concern is for the abstract ideas of the spiritual realm; the beauty created by artists was intended to assist the viewer in spiritual fulfillment.

Also dated between the tenth and twelfth century is another plaque with the *Deësis*, that is Jesus between Mary and John the Baptist, who act as intercessors and plead with Jesus on behalf of humankind. This miniature work measures only 6 5/8 by 5 1/2 inches (7 × 4 cm.) (Metropolitan Museum of Art, New York).

The same figures—*Jesus, Mary, and John the Baptist*—as well as *Saints George, Peter, Paul, Matthew, Mark, Luke, and John the Evangelist*, are among the representations on a series of individual Byzantine medallions made of cloisonné on gold, in the late eleventh to early twelfth century (Metropolitan Museum of Art, New York). An old photo documents the fact that these medallions, each measuring only 3 1/4 inches (8.3 cm) in diameter, were originally placed around an icon of the archangel Gabriel, the ensemble presumably made in Constantinople for the monks of a monastery in Djumati, Georgia. Byzantine cloisonné pieces such as these were made in workshops and exported widely to customers in monasteries, churches, and courts.

Perhaps the most spectacular example of Byzantine cloisonné is the *Pala d'Oro*, the *Golden Altarpiece*, a masterpiece of the later Byzantine period and a highlight of the furnishings of San Marco in Venice. The *Pala d'Oro* is the largest monument of Byzantine enamel work to survive and includes 137 enamel plaques made during different periods that are, consequently, not completely homogeneous in style. The history of the construction of the *Pala d'Oro* is debated. The first version may have been made in 976. An altarpiece of gold with enamels and precious stones was ordered from Constantinople by the Doge (duke) Ordelafo Falier and erected in 1105. Only one enamel plaque on the *Pala d'Oro* can be firmly dated—to 1081–1118 because it includes the name of the Empress Irene. Later additions were made by Venetian enamel workers. In 1209, the altarpiece was renewed and enlarged. On the lower portion the central panel depicts *Jesus Enthroned*, reworked in 1209, surrounded by the four evangelists (Photo 7.1). In 1342–1345, when Andrea Dandolo was doge, the artist Bonensegna signed the *Pala d'Oro*. It was remodeled at this time and given Gothic elements; earlier Byzantine enamel plaques were added as were Venetian enamel plaques; the

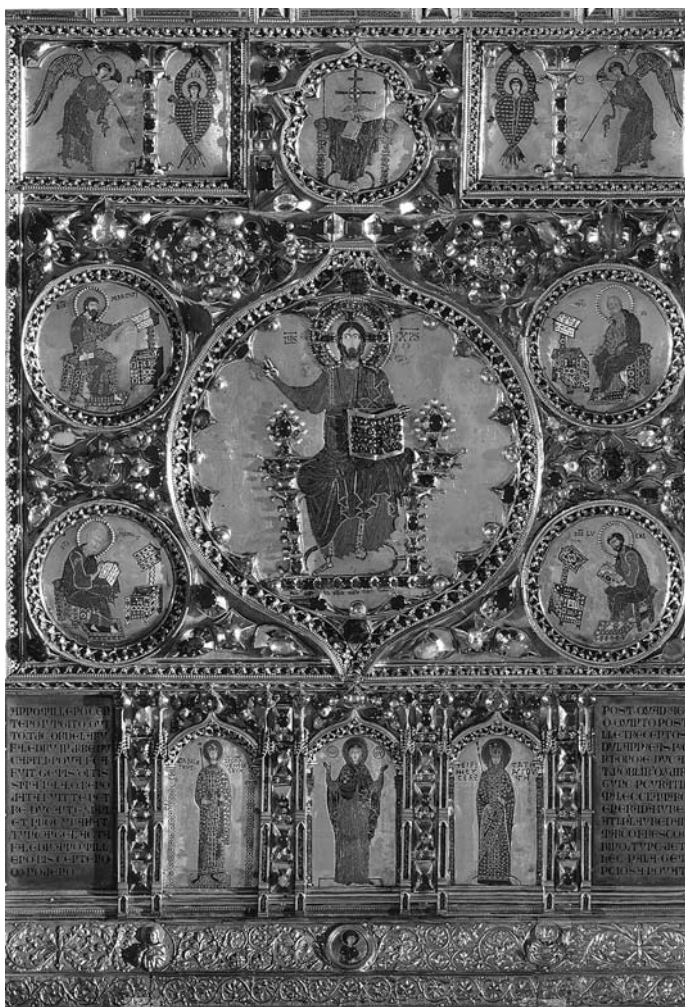


Photo 7.1 *Jesus Enthroned*, surrounded by the four evangelists. Above, the Hetoimasia (empty throne) and seraphim. Below, Byzantine Empress Irene (probably wife of Alexions I Komnenos, r. 1081–1118). Central section of the Pala d'Oro, Byzantine, 976, remade 1342–1345. San Marco, Venice. Camera photo/Art Resource, NY.

plaques rearranged; and pearls and precious stones were introduced, giving the *Pala d'Oro* essentially the form seen today.

The *Pala d'Oro* is made with exceptionally fine cloisonné using gold strips that were too narrow to be welded to the supporting metal. The cloisons, therefore, may have been fixed in place temporarily by using

sticky resins. When the enamel was applied and then heated, the resin would have burned off and the enamel and gold strips would have become firmly attached to the supporting base.

The cloisonné technique spread from the Byzantine East, across Europe, and was practiced in the West. An example of cloisonné on copper gilt made in southern France, during the eleventh century, is a diamond-shaped plaque of *Jesus in Majesty* (Metropolitan Museum of Art, New York). The gold fences form linear gold highlights, producing hard drapery effects, in a two-dimensional golden spaceless realm.

Cloisonné and champlevé enamel were occasionally combined on a single object. An example of this is provided by a Carolingian cross-shaped mount, made at the end of the eighth or during the ninth century, that uses both cloisonné and champlevé on bronze (Metropolitan Museum of Art, New York). A later example of cloisonné and champlevé used in combination is offered by a depiction of *Jesus in Majesty* on a plaque created in twelfth-century Limoges (Musée National du Moyen Age, Paris). The plaque was probably from the binding of a manuscript.

Other examples of cloisonné and champlevé combined are the Mosan depictions of the *Baptism of Jesus*, his *Crucifixion*, and the *Three Maries* at his tomb (Metropolitan Museum of Art, New York). On the last of these, the enamel is partially lost, enabling the viewer to study the technique used. Indeed, unfinished or damaged objects may be of significant value in revealing the actual working process employed.

The two most important geographic areas in western Europe for champlevé enamel work were the city of Limoges in southern France and the Mosan area, which refers to a region of the Meuse Valley, approximately bounded on the north, east, and west by the Rhine River in Germany and the Meuse River in the Low Countries, and on the south by Verdun in France.

Champlevé Enamels: Limoges

Champlevé enamel on copper was popular by the late eleventh or early twelfth century and was the specialty of the enamel studios in Limoges. An example is the *Reliquary of the True Cross* in the shape of a coffer or little house, called a *châsse* in French, a term that comes from the Latin *capsa*, meaning “coffin.” This was made in the twelfth century when enamel production in Limoges was at its peak. The enamel images on this reliquary tell the story of Raymond Botardel who received a relic of the True Cross from the abbey of Notre-Dame de Josaphat and

brought it to the abbey of Saint-Sernin in Toulouse (where the reliquary is today). The figures are gilded and the details incised; enamel fills the spaces between the figures. On other examples, this may be reversed with the figures made in enamel and the background of gold.

Another twelfth-century reliquary coffer (also in Saint-Sernin, Toulouse) uses swirling forms that hark back to the elongated animal interlace of Irish manuscripts. The refined technique exhibits the highest level of craftsmanship.

Saint Étienne de Muret and Hugo Lacerta are portrayed in champlevé enamel on a plaque made in twelfth-century Limoges (Musée National du Moyen Age, Paris). An inscription on the back of the plaque, written in the language of the Limousine province, identifies the two figures. Étienne de Murat founded the order of Grandmont near Limoges. Because he is shown with a halo, this plaque must date after 1189, the year in which he was canonized. The plaque, from Grandmont's major altar, is considered a masterpiece for the technical skill exhibited and the richness of the coloring. A curious dichotomy exists between the awkwardly drawn figures and their superbly crafted execution.

A *Crucifix* by the so-called Master of the Grandmont Altar, made c. 1190 in Limoges, shows a stylized figure of Jesus, his anatomy transformed into a decorative linear surface pattern (Cleveland Museum of Art). Below the cross is the skull of Adam, and below that is the skull of Saint Peter. On the terminals are busts of Mary and John. The surface of the cross is essentially flat.

In contrast, a twelfth- to thirteenth-century tabernacle from Limoges (Metropolitan Museum of Art, New York) contains a depiction of the *Crucifixion* in which the figure of Jesus is raised in relief. This effect may be achieved by the technique known as *repoussé*, described in the previous chapter, in which the metal is hammered out from the back to form the figures that may be supported with wood or wax. Comparison of the colors used in Limoges enamels shows those of the late twelfth century to be especially rich, whereas those of the thirteenth century have been described as "impoverished" by comparison and the range of colors—especially the blues—is reduced.

Because relics were of great importance during the Middle Ages, reliquaries in which to keep these holy remains, such as the *Reliquary Chasse of Saint Thomas Becket* (Photo 7.2), made c. 1210 of champlevé enamel on copper alloy, were a major product of the Limoges studios. A variety of techniques were used on thirteenth-century Limoges reliquary chasses: some figures are enameled, others are gilded and flat,



Photo 7.2 *Reliquary Chasse of Saint Thomas Becket*, French, made in Limoges, c. 1210, copper alloy and champlevé enamel over wood core. Allen Memorial Art Museum, Oberlin College, Ohio. Gift of Baroness Rene de Kerchove/The Bridgeman Art Library International.

others gilded in relief, and still others enameled in relief. Typical of work in champlevé is a love of pattern, regularity of design, symmetry of composition, abundant detail, and a predilection for ornamental use of animal images as the basis of designs. The two main decorative motifs used in thirteenth-century Limoges enamel work are the rosette and the flowering rinceau (a pattern formed from curling vines and stylized leaves).

The depiction of *Jesus in Majesty* on an early thirteenth-century reliquary (Limoges Museum), like the figures of Mary and the angel Gabriel on a plaque of the *Annunciation* (Metropolitan Museum of Art, New York), also made in early thirteenth-century Limoges of champlevé enamel on copper gilt, is highly expressive. On these works, and many others made of champlevé enamel, the significant visual appeal of the technique may engage and delight the viewer while simultaneously distracting the viewer's attention from the subjects portrayed.

In the thirteenth century, the Limoges studios produced a variety of religious objects. Besides reliquaries and plaques, croziers, Eucharistic doves, altar cruets, pyxes, censers, tabernacles, and other items used in the service of the Church were also manufactured.

A crozier (crosier) is an ornate staff that is carried in processions by bishops, abbots, and abbesses. It is the identifying accessory of a bishop. The crozier may have evolved from the walking staff used by apostles and pilgrims on long travels by foot. It started as a simple crook shape, thus referring to a shepherd's crook and implying that the bishop was the shepherd of the Christian flock. From Early Christian times, the faithful were frequently represented in art as sheep and Jesus was shown as their shepherd, reflecting Biblical imagery. Psalm 23:1 says "The Lord is my shepherd." Psalm 100:3 says, "We are his people and the sheep of his flock." The crozier is a symbol of pastoral authority, firmness, correction of vices, and mercy. Gradually, croziers were made progressively more ornamental. Each part of the crozier was interpreted symbolically: Thus, the end was sharp to poke and prod the slothful; the staff was straight, for righteous rule; and the head was crooked to "draw souls to the ways of God." Therefore, the crozier is always held with the crook curving outward. A number of medieval croziers (or more often, crozier heads) survive. In several, such as those at the Metropolitan Museum of Art in New York, or the Detroit Institute of Art, Saint Michael is depicted in the process of slaying the dragon. Such embellishments were considered to have spiritual value, to aid in the edification of the faithful, and to praise God by embellishing his home.

Eucharistic doves were a notable type of item manufactured of champlevé enamel on copper gilt in thirteenth-century Limoges studios. The dove is a symbol of the Holy Ghost or Holy Spirit: John 1:32, says "I saw the Spirit descending from heaven like a dove, and it abode upon him." The Eucharistic doves served as containers for the host (the consecrated wafer eaten by the faithful during the ritual of communion), which was inserted through a hinged door on the dove's back. Such doves were placed above the altar, suspended on chains, some even able to flap their wings as they were lowered and raised—no doubt to the delight of the congregation.

In the fourteenth and fifteenth centuries, "Limoges style" work appeared in studios established all over Europe, often making the origin of an object difficult to determine.

Champlevé Enamels: Mosan

Enamel work was at its peak in the Mosan area between the eleventh and thirteenth centuries. The *Stavelot Altarpiece*, thus known as it is from Stavelot in modern-day Belgium (Musées Royaux d'Art et d'Histoire, Brussels), made of silver, gilt, rock crystal, and enamel, is dated c. 1150. The many figures are organized by a geometric scheme, including a central quatrefoil. Rock crystal was often used in reliquaries because its transparency allowed the viewer to see the relic through the protective rock crystal, which was a symbol of purity and integrity. (Use of rock crystal for its transparency was noted in the *Visitation* discussed under wood sculpture in Chapter 6 [Color plate 14], attributed to the German Master Heinrich of Constance, the babies in Mary's and Elizabeth's wombs revealed through their rock crystal abdomens.)

A triptych *Reliquary of the True Cross*, Mosan champlevé work made 1160 (The Cloisters, New York), originally displayed a relic in a square opening in the center plaque, on which Justice, with scales, is portrayed. Jesus is in the trefoil gable. On the wings, angels sound the trumpets as the dead arise from their tombs.

Three champlevé Mosan plaques in the Metropolitan Museum of Art, New York, from the third quarter of the twelfth century, depict scenes from the life of Jesus. The subject of the *Baptism of Jesus* is always challenging for artists as it requires the depiction of not only a nude, a subject rarely seen in the Middle Ages when artists were forbidden to work directly from a live model and the human body was regarded as sinful, but also water, difficult to depict at any time in almost any medium. Here, in the first plaque, the *Baptism of Jesus*, the enamel worker created a non-naturalistic world with a golden sky in which weightless figures float and water has waves that wiggle like hair—or spaghetti. The second plaque of this set is the *Crucifixion*, and the third, the *Pentecost*. On these plaques, the figures are labeled, the writing across the background stressing the two-dimensional planar quality: clarity was the goal, realism was not. These plaques, and others like them, are dainty and delicate, decorative and delightful, yet also deliberately descriptive and didactic.

A Mosan artist known by name is Nicholas of Verdun. His first documented work is the altarpiece of Klosterneuburg Abbey, near Vienna, Austria, a major program of enamel work, widely regarded as a masterpiece, signed and dated 1181 in an inscription. The altarpiece originally had forty-five plaques, each depicting a different subject. Seen against a background of champlevé enamel, the engraved and gilded figures exist



Photo 7.3 Nicholas of Verdun (fl. 1181–1205), *Noah and the Ark*, detail of one of the 45 panels of an altarpiece, 1181, champlevé enamel, Klosterneuburg Monastery Abbey, Austria. Ali Meyer/The Bridgeman Art Library International.

in an abstract two-dimensional realm. Yet these figures are rounded and often portrayed in poses atypically active for the time. *Noah and the Ark* (Photo 7.3) is depicted on one of the plaques. On the upper level of the ark, Noah reaches for the olive branch returned by the dove, indicating that dry land has been found. Human heads appear in the arched windows on this level while various types of animals appear in those below. Additional animals surround the lion, always given pride of place in medieval art. In the scene of the *Birth of Jesus*, the infant is elevated on an altar, a reference to his future sacrifice. Jesus is swaddled, thereby immobilized, as babies customarily were during the Middle Ages. The ox and the ass, traditional inclusions in this scene, derive from Isaiah and are intended to indicate that even these humble animals recognized Jesus's divinity. The

figures in the *Last Supper* reveal a sense of the body beneath the drapery; the fabric clings according to the form enveloped and hangs in folds according to the laws of gravity. This is in contrast to so many earlier medieval enamels in which the drapery forms an abstract linear pattern independent of the body beneath. Nicholas of Verdun's work may be seen as a return to the antique relation between figure and costume.

Although Limoges reliquaries were most often made in the house-like shape known as a *chasse*, discussed above, reliquaries were made in a variety of other shapes. One of the most spectacular examples of medieval enamel craftsmanship is the Mosan *Reliquary Flabellum* (liturgical fan) made c. 1200, probably in Cologne (now in The Cloisters, New York), that contained a relic in the very center of a series of ornamental concentric circles. This flabellum is both too delicate and too heavy to actually use as a fan and must have been primarily ornamental.

Reliquaries may be in the form of a full-length figure representing the saint or other person from whom the enclosed relic derives, as is the case in a Mosan *Reliquary of Saint Stephen*, c. 1220, made of enamel, silver gilt, and copper gilt (Metropolitan Museum of Art, New York).

Other reliquaries were more specific in shape, mimicking that of a body part contained within. An impressive Mosan *Arm Reliquary* was made of enamel, bronze, silver, and gold, c. 1220–1230 (The Cloisters, New York). There are also head reliquaries, foot reliquaries, and reliquaries in the form of other body parts.

Other Enamel Methods

An example of the relatively rare *basse-taille* enamel technique is a silver gilt English diptych, made c. 1325 (Victoria and Albert Museum, London). Tiny and fragile, this exquisite portable diptych was made for a wealthy patron's private devotions. Most of the subjects depicted relate to the life of Jesus: Inside, depictions of the *Annunciation* and *Nativity* are on the left panel and the *Crucifixion* is on the right panel. On the outside, on one panel are the *Resurrection* and *Ascension*, while on the other panel are *Jesus Crowning Mary* above and *Saints Christopher and George* within arches below.

Basse-taille enamel is used on the celebrated *Madonna and Child of Jeanne d'Évreux* (discussed under metalwork in Chapter 6 [Color plate 13]), made in Paris, 1324–1339. The base is in the form of a miniature rectangular coffer supported on four little lions. At the corners are enameled plaques representing the queen's coat-of-arms and an

inscription identifying her as the donatrice of this statuette to the royal abbey of Saint-Denis. Also on the base are colonnettes supporting tiny figures unrolling parchment scrolls under Gothic canopies. They frame fourteen tiny enamel scenes of the infancy and Passion of Jesus. In the *Annunciation to the Shepherds*, an angel tells the shepherds that Jesus is born. The figures act and react, as the animated shepherd turns his head in surprise at the appearance of an angel. In spite of the tiny size of the plaque, the artist created a sense of depth and space, using the technique to achieve extreme subtlety and nuance. Opaque enamel (as the stars) is combined with translucent basse-taille enamel (as the sky). For the latter, the gilded silver ground was sculpted, engraved, and chiseled in low relief to receive the translucent enamel. The figures of the shepherds and animals are left *en réserve* in that they are reserved from the color and are only engraved.

An exquisite example of translucent basse-taille enamel is the reliquary shrine perhaps made in Paris by the French artist Jean de Toul, possibly for Elizabeth of Hungary, c. 1340–1350 (The Cloisters, New York, 62.96). This miniature masterpiece, constructed of silver gilt, looks like a tiny Gothic building—in particular, the Sainte-Chapelle in Paris, but is only 10 inches (25.4 cm) high. The walls of this building are hinged so that it may be opened to look like a miniature altarpiece, 16 inches (40.6 cm) wide, taking elegance, opulence, and intricacy to an extreme. In the center, Mary nurses Jesus, an image of charity known as *Maria Lactans*. She is flanked by attendant angels holding little boxes that must once have displayed relics. The side panels include scenes from the life of Jesus, especially his infancy, such as the *Adoration of the Magi* and the *Flight into Egypt*. Additionally, there are apostles, saints, and music-making angels. Because the subjects of the enamel scenes have to do with Jesus's early life, the relics probably were associated with the Nativity.

A medallion showing *God between Charlemagne and John the Baptist* (Photo 7.4), made 1370–1380, was executed in the basse-taille method of working with translucent enamel on gold. The appeal of rich and subtly nuanced colors of translucent glass enamel, the intricacy of the underlying patterns sculpted in miniature on the metal ground, and the warm gleam of the surrounding gold are unmatched by other methods.

The basse-taille technique was not restricted to France. A German example, perhaps made in Cologne, 1300–1325, is a tiny diptych of silver gilt and translucent and opaque enamel (Metropolitan Museum of Art, New York, 1980.366). On the exterior the *Crucifixion* and



Photo 7.4 *God between Charlemagne and Saint John the Baptist*, medallion, 1370–1380, gold and translucent enamel. Musée du Louvre, Paris. Erich Lessing/Art Resource, NY.

Resurrection are depicted, and on the interior the *Annunciation* and *Nativity*. The interior figures and the Gothic architectural setting that forms a frame for each scene are made of silver that was cast and hammered and then gilded. The blue backgrounds are executed in *basse-taille*, while the roofs of the little buildings are colored with opaque enamel.

The earliest known example of *plique-à-jour*, and one of the finest extant examples of this technique, is the *Merode Cup*, made in the early fifteenth century in France (Victoria and Albert Museum, London, 403–1872). This covered cup is made of silver-gilt, decorated on both the cup and the cover with a band inset with panels of translucent *plique-à-jour* enamel made with gold cells. This unique cup, measuring only 6 7/8 high and 3 5/8 inches in diameter (17.5 × 9.3 cm), is named for its former



Photo 7.5 **Monkey Cup/Ape Beaker**, South Netherlandish, c. 1425–1450, painted enamel on silver gilt, h. 7 7/8 in. (20 cm.). The Metropolitan Museum of Art, The Cloisters Collection, New York, 1952 (52.50). Image E75. The Metropolitan Museum of Art.

owners, the Merode family of Belgium. Another similar cup is listed in the 1417 inventory of the possessions of Jean, duke of Berry. Such cups were highly praised in their time. However, plique-à-jour enamel was used more often for jewelry.

Similarly, jewelry was the likely recipient of *émail en rond-bosse* or *rond bosse*. An example is the depiction of a *Bride and Groom* (Color plate 16) on the brooch made in Burgundy in 1476 for Mary of Burgundy on her engagement to Maximilian I. The encrusted enamel is combined with gold and pearls. *Émail en rond-bosse* became a specialty of goldsmiths who worked for French royalty.

A justly lauded example of *painted enamel* is known as the *Monkey Cup* (*Ape Beaker*) (Photo 7.5) dated c. 1425–1450, South Netherlandish, believed also to have been made in Burgundy, perhaps for the

Burgundian court, although the *Monkey Cup* also has been described as Flemish, Franco-Flemish, or Flemish-Burgundian work. This cup is painted with gold and white on a dark blue background. Atypically, the painting is done on a silver surface, which was gilded. Few examples of painted enamel survive today, and the most famous extant medieval example may well be the *Monkey Cup*. The engaging subject portrayed here was popular in the fifteenth and sixteenth centuries. On the outside, a sleeping peddler is robbed by thirty-five monkeys—they take his clothes and other possessions and then cavort in the tendril-like trees with their ill-gotten gain. On the inside of the cup, a forest is depicted. Here the monkeys act like human hunters and are equipped with hounds, a hunting horn, and bow and arrow. Two monkeys chase two stags, the favorite quarry of the late medieval aristocracy. Painted enamel objects were also manufactured in Limoges, as evidenced by three painted plaques dated between c. 1475 and the first half of the sixteenth century (Metropolitan Museum of Art, New York). The technique continued to be practiced in the Renaissance.

In conclusion, the history of art benefited greatly from the competition during the Middle Ages engaged in by members of the royalty and nobility with those of the religious hierarchy in the elaboration of their castles and courts, churches and cathedrals, respectively. The medieval love of elegant small-scale precious objects, intense jewel-like colors, decorative pattern, and virtuosity in craftsmanship were well-served by the enamel medium, frequently found on domestic items used in aristocratic households and on religious items intended for use within the medieval church. In the next chapter, the focus is on stained glass, a medium that offers equally brilliant color on a much larger scale, filling the windows of medieval buildings, especially the churches and cathedrals of the Gothic era.

Stained Glass: Windows of Colored Light

Materials and Methods of Stained Glass

De diversis artibus (*On Divers Arts*), a medieval technical manual written in Latin and thought to have been authored by the monk Theophilus Presbyter, was mentioned in previous chapters. Theophilus provides information on various arts in three books, the second of which is concerned with the Art of the Worker in Glass. Here the reader learns how glass was made during the Middle Ages: in Chapter 4 Theophilus's recipe for glass calls for two parts beechwood ashes (which is potash, an alkali), and one part river sand (which is silica) that has been carefully cleaned. The ashes and sand are mixed together. This mixture is placed in a furnace, heated "for a night and a day," and stirred when hot. The alkali causes the silica to fuse, but the glass that results is very impure because it contains organic residue and debris. Consequently, it is easily attacked by the atmosphere and is not durable. Theophilus's glass is greenish, but he noted that if it is boiled longer it becomes yellowish or reddish.

A monk by the name of Heraclius, who probably lived in the thirteenth century, although dates as early as the seventh century have been suggested, wrote *De artibus romanorum* (or *De coloribus et artibus romanorum*), which explains how glass may be made in various colors. Heraclius advises the addition of powdered metallic oxides: copper oxide makes red; cobalt makes blue; antimony makes yellow; iron oxide makes green; and manganese makes violet. Stained glass is also referred to as *pot metal*

glass, the word “metal” used because of the various metallic oxides added to the “pots” that held the molten glass.

The construction of a stained glass window is a long and tedious process. First, the design is drawn full scale, using chalk on a large white-washed wooden board. Allowance must be made in the design for the thickness of the lead that will hold the individual pieces of glass together. The individual pieces of glass are placed on the design, the contours of the intended shape of each piece are traced on the glass with chalk, and each piece is cut to the proper shape. Early glass was cut with a hot iron; diamond cutters were probably first used in the fourteenth century. Irregular edges are trimmed with a *grozing iron*. The pieces are then assembled in a temporary frame. To fasten the pieces of glass together, the glass worker uses soft lead strips called *comes* that are shaped like the letter H in cross section and are easily bent by hand. Each piece of glass is inserted into the grooves of the came which is then bent to conform to the shape of the glass, the worker pressing the lead tightly against the glass. In addition to holding the small pieces of glass together, the lead also forms an important part of the design. All the joints must be soldered with tin. The windows are winterized by filling in any cracks between the glass and the lead with putty. The lead is thicker between the pieces of glass and has shorter legs in early windows than in later windows. In the early windows, therefore, the pieces of glass had to be cut with greater precision than in later windows.

Because a stained glass window is made up of many little pieces of glass, it lacks structural rigidity. A large window is therefore divided into separate panels of stained glass and is reinforced by iron bars and stone tracery. In the earlier twelfth century, a simple grid was likely to be used. However, in the later twelfth century, and especially the thirteenth, the metal bars might also be curved to fit the design—as at the cathedrals of Chartres and Bourges—at times forming very complex patterns. Stone bar supports, referred to as *tracery*, were used on very large windows. Circular windows had stone ribs radiating from the center, like the spokes on a wheel, creating the “rose” (or “wheel”) windows so characteristic of many Gothic facades.

Prior to being assembled to create the window, the individual pieces of glass may be treated in a variety of ways. *Grisaille* is a technique that has been used since the ninth century to paint fine details such as facial features, hands, and fabric folds, as well as architectural and landscape details on glass. Although the word *grisaille* refers to the French for gray, painting is done in shades of gray, brown, and green. (Use of *grisaille* in

manuscript illumination was discussed in Chapter 1.) The glass on which the grisaille work was done during the Middle Ages is almost clear, having a slightly greenish color. To work in grisaille, powdered glass is combined with a pigment in the form of iron oxide, copper oxide, cobalt, or another mineral, and then mixed with water, wine, or vinegar as a medium, and gum arabic or a resin to increase adhesiveness. Using a brush, the artist applies this mixture to the glass.

There are two very different, in fact opposite, ways of working with grisaille. In the most frequent and simplest method, the artist uses the grisaille mixture to paint the details, employing small brushstrokes. Alternatively, the artist may apply a large area of grisaille and create the details by scratching through this darkened area, thereby allowing light to shine through where the grisaille has been removed. Whichever method is used, the next step is to fire the glass pieces to which the grisaille has been applied in a kiln or oven. The heat causes the oxide to vitrify, fusing the paint to the glass. It is necessary to wait one day before inserting the pieces of glass into the window.

In a related method, a large area of *matte* wash made of a brown powder is painted on both sides of the glass to make it opaque. The artist then scratches through the matte wash, thereby making transparent lines. Alternatively, the artist *stipples* the wash using a hog hair brush that creates many tiny dots where the pigment is removed by its adherence to the bristly hog hair. Light shines through the countless dots, making stippling a suitable technique to employ if a subtle gradation in tone is sought, for example, on the folds in drapery. As in grisaille, the final step is to fire the glass in order to affix permanently the applied color.

In general, the history of stained glass indicates progressively greater use of painting on glass. This coincides with an increase in the size of the pieces of glass used to construct the windows, and also with the growing dimensions of the windows themselves as the Gothic architectural style evolved.

Silver stain is a technique that began in the early fourteenth century. Using silver nitrate, which is a salt of silver known as *jaune d'argent* or "yellow of silver," the artist paints on the glass, which is then fired. Silver stain may be used to give luminous highlights to colors. It creates a vivid yellow when used on white or nearly clear glass. It may be applied over other colors; for example, when painted on blue glass, the result is green, and on red glass the result is orange.

Some colors, especially reds, are so dark that they are almost opaque when of the thickness required for stained glass windows. Consequently,

they are fused in a very thin sheet to nearly clear glass or, alternatively, a piece of nearly clear glass is dipped into molten glass of the dark color. Either method produces what is known as *flashed glass*, which was used at least as early as the twelfth century and became popular in the fourteenth century and thereafter. *Sgraffito* is a technique used on flashed glass in which the artist scratches through the colored film, thereby making transparent lines. It was rarely used prior to the fifteenth century.

In the fifteenth and early sixteenth centuries, a red ceramic known as *Jean Cousin* appeared. When applied to glass, this trioxide of iron creates a red color. It was used only on small areas, and might be combined with grisaille and silver stain.

A new technique for painting on glass was developed in the sixteenth century, after the close of the Middle Ages, and used especially in the seventeenth century. A translucent glaze, a *vitreous enamel*, was created from ground glass and colored metallic oxides. Many colors could now be painted on a single piece of glass. The result was a fundamental change in concept from stained glass windows made up of many small pieces of glass, each having its own individual color, to larger pieces of very light-colored glass onto which other colors were painted. Glass work was revolutionized as now a vast range of different colors could be employed and an unlimited range of effects achieved.

The glass used in stained glass windows has a history of its own. The pieces of glass used to construct a window might be a combination of a variety of sizes, large and small. Twelfth and thirteenth century glass was thick and uneven. From the thirteenth century on, sodium was added to produce thinner—but softer—glass. After the fourteenth century, although the glass continued to be irregular in thickness, it was made progressively thinner. The leading used to hold the pieces of glass together also tended to be made thinner. The stone tracery in the windows was made ever more delicate and the patterns formed more complicated.

Stained glass, like every other medium, offers advantages and disadvantages. Perhaps the most appealing quality of stained glass is the brilliance of the colors that fill the windows, and the colored light that streams through those windows, flooding the interior spaces of the building, creating an atmosphere, an ambiance unlike any other. Stained glass is an important part of the impact of Romanesque and, especially, Gothic church and cathedral architecture. The interiors are colorful but, in spite of the size of the windows, are not very well lit for stained glass windows, especially the earlier ones in which the colors were deep and

saturated, actually limit the amount of light that enters the space. There is nothing to see of these stained glass windows from the exterior—other than the patterns formed by the stone tracery. Instead, stained glass may be regarded as a form of interior decoration.

Stained glass is not without disadvantages. It is damaged by weather conditions and the growth of lichen—the inevitable toll taken by Mother Nature. But greater damage has been done by human nature's creations such as pollution, car exhaust, medieval and modern warfare, and the mania for modernization. Much stained glass was “restored” during the eighteenth century—panels were taken out of windows, the sequence of scenes was changed, and parts of one window were put into another. Stained glass has not been appreciated by all eras; when clear windows became fashionable in the eighteenth century, many stained glass windows were removed. For example, at Amiens Cathedral, the stained glass is now largely gone, because the eighteenth-century clergy wanted more sunlight to enter the nave. Today, it may be difficult to distinguish between original medieval glass and well-restored modern glass, inviting errors of interpretation.

Although not used for windows, another method of painting on glass used during the Middle Ages that deserves mention is *verre eglomisé*, French for “gilded glass.” There are two basic approaches: one in which the artist works on the front of the glass surface, and the other in which the artist works on the back. In the former, the glass surface is gilded by applying a gelatin adhesive and then gold leaf (or other metal foil). On this surface, the artist engraves the design. This method has a long history and was used by the Ptolemies in ancient Egypt and by the ancient Romans. It was employed especially by the Early Christians of the third and fourth centuries on medallions that were pressed into the mortar of graves in the catacombs of Rome. These medallions, which functioned as grave markers, were probably created by several methods, the basic technique being to gild the glass, engrave the design, and then seal in the gold image by applying a second layer of glass.

If work is done, instead, on the back surface of the glass, the artist must work in reverse when creating the image in the gold pigment. Again, the final step is to seal the back to protect the work. *Verre eglomisé* is suitable for small objects. The technique did not receive the name by which it is known today until the eighteenth century, derived from that of Jean-Baptiste Glomy (1711–1786), a French decorator, art dealer, and picture framer who popularized the method.

Masterpieces of Stained Glass

Although stained glass windows reached a highpoint in the late Middle Ages, the use of colored glass has a long history in other contexts. The ancient Egyptians made glass vessels and jewelry, as did the ancient Romans whose techniques were highly developed. Documents indicate that as early as the fourth century, colored glass was used to decorate church windows. Fragments of stained and painted leaded glass windows survive from ninth-century France. The earliest extant stained glass church windows are dated 1065 and are in Augsburg Cathedral, Germany. Stained glass developed slowly in the Romanesque era (c. 1000 f.) because religious architecture of the period favored thick walls and small windows. In Romanesque buildings, the large wall areas were often painted with religious stories, figures, and ornaments. However, in the structural system of the subsequent style of architecture—the Gothic (c. 1144 f.), the wall's supporting role was taken over by an elaborate system of external buttresses, especially by flying buttresses, that allowed for windows of ever-increasing size. The didactic and decorative roles served by Romanesque murals were largely filled in the Gothic era by stained glass windows.

The royal abbey of Saint-Denis, located just north of Paris, is widely accepted as the first major Gothic church. The oldest stained glass windows here are in the ambulatory and date to the 1140s. From the work of the energetic, eccentric, and egocentric Abbot Suger in the choir and apse of Saint-Denis in the 1140s onward, stained glass gained greatly in importance and came to be a significant component of the impact of a Gothic interior. When compared to Romanesque windows, those at Saint-Denis are large, but they are still small when compared to what will come later as the Gothic style of architecture develops.

Stained glass created a new kind of lighting. The light that streams through stained glass windows was believed to have special religious significance and mystical qualities. Light was considered an attribute of divinity in medieval religious philosophy. John the Evangelist described Jesus as “the true light” and “the light of the world who came into darkness.” Saint Augustine called God light and distinguished between spiritual and physical light. Abbot Suger considered physical light to be a reflection of divine light—at Saint-Denis, colored light enters through the stained glass windows, flooding each chapel in the apse of the church.

The subject of Jesus's noble ancestry is depicted in *Tree of Jesse*, one of the ambulatory windows at Saint-Denis. At the bottom of this window

is Jesse, the patriarch of the royal family and the father of David. As Jesse sleeps, a tree grows from his body, indicating that Jesse is the root that produced a lineage of kings. Thus in the branches above, the kings of Judah and their descendants are represented by three kings, one above the other. At the top are Mary and then Jesus with an aureole of seven doves that symbolically represent the seven gifts of the Holy Ghost (in gold medallions, with remnants of inscriptions). The bottom of this particular window deserves a closer look because the figure who kneels on the right is Abbot Suger, discussed in Chapter 6 for his active role in the embellishment of Saint-Denis. Hardly humble, he had himself depicted at the feet of the patriarch of the royal family of Jesus! And, lest the visitor not appreciate Suger's generosity, he had himself shown holding the very window in which he appears!

Another window in the ambulatory of Saint-Denis depicts the *Infancy of Jesus*. As is most often the case in the twelfth century, each scene is confined to its own panel and the narrative is conveyed through expressive vignettes. In the *Annunciation*, the angel Gabriel tells Mary that she will give birth to the infant Jesus. In one of the ultimate assertions of ego, Abbot Suger reappears in this scene, prostrating himself at Mary's feet. In the *Visitation*, Mary, now pregnant with Jesus, and her cousin Elizabeth, pregnant with John the Baptist, exchange their news. In the scene of *Joseph's Dream*, he is warned by an angel that Herod plans to murder the innocent children. Little in the way of setting is included—neither landscape nor architecture is required to tell these biblical tales with which the intended audience was assumed to be familiar. These mid-twelfth-century stained glass windows are early in the history of medieval glass. As was customary for the time, the individual pieces of glass are extremely colorful, quite small, relatively thick, and the lead came quite wide when compared with later stained glass windows.

These stained glass windows at Saint-Denis, excluding the figures of Abbot Suger, came to serve as models and were copied throughout Europe. The same arrangement seen in the Saint-Denis *Tree of Jesse* window appears at the cathedral of Chartres and the Sainte-Chapelle in Paris. A repertoire of subjects was repeated in stained glass, much as was done in other medieval media. Stained glass workers traveled from job to job in the twelfth century; local workshops are not found until the fourteenth century.

Twelfth-century stained glass is also seen at the cathedral of Le Mans which is dedicated to Saint Julien (Julian). Architecturally, the cathedral is a strikingly mismatched combination of a Romanesque front portion

and a Gothic back portion. The twelfth-century stained glass window of *Jesus Disputing with the Elders* is in the north aisle, which dates from the earlier period of construction. Mary enters the temple on the left and raises her hands in surprise as she finds her young son there. On the right, a man leans forward, to hear Jesus's words. The poses and gestures make the story clear. Among the other scenes at Le Mans is that of *Saint Étienne* (Stephen), in which he is portrayed being chased from the city, shown as a miniature mansion. Stephen is pushed out of the city gate by a person on the left, and pulled by another on the right.

Chartres Cathedral, dedicated to Jesus's mother Mary, is regarded as the first masterpiece of the High Gothic style. As is typical of many Gothic west facades, there are three portals, two towers, and one circular window, referred to as a "rose" or "wheel" window. Although circular windows date back to ancient Roman times, they reached their peak of popularity during the Gothic era and are found on the facades of—in chronological order—the royal abbey church of Saint-Denis, the cathedral of Notre-Dame in Chartres, the cathedral of Notre-Dame in Paris, the cathedral of Notre-Dame in Reims, the Sainte-Chapelle in Paris, and almost everywhere else the Gothic style was used for the construction of churches and cathedrals, with the exception of England.

The twelfth-century west facade rose window is the earliest of the three rose windows at Chartres. This rose depicts *Jesus as the Apocalyptic Judge*. Due to the constant concern for the end of the world, the Last Judgment was frequently depicted in medieval art. The end of the world had been predicted for the year 1000; when this date had safely passed, the date of devastation was merely revised, the end of the world then predicted by Hildegard of Bingen to come in the year 1200. (The author notes that, as similar predictions were made for the year 2000, such pessimism was not restricted to the Middle Ages.)

Below the west rose window at Chartres are three lancet windows (the term refers to their slender, pointed, vertical shape) dated to approximately 1150. The excellent state of preservation of these windows is due to the fact that during World Wars I and II, the cathedral's glass was removed. The glass was restored in the early 1970s.

The left (when viewed from inside the nave) lancet window, the *Tree of Jesse*, depicts a subject already noted at Saint-Denis. At the bottom of the Chartres window, Jesse reclines as the tree grows from his body. In the tree are four kings of Judah. Above them is Mary and, at the very top, Jesus with seven doves representing the seven gifts of the Holy Spirit. The border is filled with Old Testament prophets and flat patterns.

The central lancet depicts the *Life of Jesus*. When a multi-scene narrative such as this is depicted in a stained glass window, the scenes are usually followed from the bottom of the window upward. The lower portion of this window is seen in Color plate 17. The story begins with the *Annunciation*, *Visitation*, and *Nativity* on the lowest row. Above is the *Angel Appearing to the Shepherds*. The *Magi Appearing before Herod* is on two panels. The story is followed by looking higher, where two panels depict the *Magi Bringing Gifts to Mary and Jesus* and the *Magi Continuing their Journey*, guided by the star. Above, the *Presentation of Jesus in the Temple* occupies two panels, and the *Dream of the Magi* is on the right. These scenes, and others in the cycle still higher in the window, offer a biblical story that is literally and figuratively colorful. Depictions of divinity have been made simultaneously didactic, endearing, and decorative.

The third (right) lancet on the west facade of Chartres Cathedral depicts the *Passion and Resurrection of Jesus*. Included is the *Last Supper* in which Jesus blesses while offering bread to Judas, who steals a fish—a common symbol for Jesus. The result of Judas's deception, the *Crucifixion of Jesus*, is depicted dramatically.

Around 1200, a distinctly Gothic style of stained glass developed. In the first half of the thirteenth century, referred to as the "golden age" of stained glass, this medium achieved great importance. At Chartres, the celebrated window known as *Notre-Dame de la Belle-Verrière* (Our Lady of the Beautiful Window) was made in the early thirteenth century. In fact, Chartres Cathedral has over 150 early thirteenth-century windows, forming an impressive and important collection of stained glass. Because local merchants donated forty-two windows, which include over 100 depictions of their occupations, these windows document early thirteenth-century life in Chartres. The windows record aspects of daily activities that reveal how medieval people actually lived—their customs, costumes, working methods, materials, and tools. For example, in the *Assumption* window, the shoemaker is seen piercing leather to make holes for the laces. Shoes are shown on the table and in the chest. Green boots hang above. A detail from the *Saint James the Greater* window shows the furrier displaying his wares to a customer. Butchers donated the *Miracles of Mary* window, in which they are depicted at their trestle table with slabs of meat and a calf's head that, oddly, seems to smile. The butchers' sign, a pig's carcass, hangs from a nail. A customer points to what he wants. Carpenters were the donors of the *Noah* window in which they are shown stripping bark off a log with axes. Cartwrights and coopers were the donors of the *Saint Julian*

window which, similarly, includes a depiction of their working methods. Sculptors donated the *Saint Chéron* window, where they are shown shaping stone figures. In many respects, the construction and ornamentation of a Gothic cathedral was a civic event actively supported by all classes of society.

The stories are told with great simplicity—only the essential elements are included in the limited space. These images, because of the decorative medium of stained glass with which they were created, cannot be made to appear genuinely realistic nor are they intended to do so. Instead, the figures are patterned and stylized, with long bodies and expressive gestures. The faces are types rather than portraits of individuals. Decorative draperies are embellished by parallel pleats and fine folds. The colors are brilliant. On a sunny day, colored light appears to pour through the windows of Chartres Cathedral, creating a dappled pattern on the opposite wall of the nave.

In addition to the rose window on the west facade of Chartres Cathedral, there are later rose windows in the south and north transepts. The glass in the south transept dates 1221–1230. In the rose, Jesus is surrounded by the Elders of the Apocalypse. In the lancets below, Mary is in the center, flanked by prophets supporting evangelists on their shoulders. The donors are shown at the bottom.

In the north transept, the rose and lancets date c. 1225–1235. The rose portrays Mary and the twenty-four Elders of the Apocalypse. Mary in Majesty is surrounded by the seven doves of the Holy Ghost; a garland of angels; the kings of Judah; twelve prophets; and other Old Testament figures in diamond-shaped panels. Thus, this rose includes aspects of the Tree of Jesse, which, as already noted, appears repeatedly in medieval stained glass. Below, the lancets contain images of Mary's mother, Saint Anne; Melchizadek and Nebuchadnezzar; David and Saul; Solomon and Jeroboam; as well as the priest Aaron and the pursuing Pharaoh, who drowns in the Red Sea.

The Cathedral of Notre-Dame in Reims was rebuilt at some time between 1210 and 1220 because its predecessor was destroyed by fire, a constant threat during the Middle Ages. As mentioned, the west facade of Reims has a central stained glass rose window. But, rather than having sculpture in the tympana over each of the three facade portals, as is the norm elsewhere, Reims Cathedral instead has stained glass tympana. The effect is striking, adding to the increasingly ethereal, immaterial, lace-like appearance of Gothic cathedral facades. The innovative glass tympana of Reims were not repeated elsewhere, perhaps because they

replaced exterior areas that could be used to instruct the public through sculpted stories.

When seen from within the nave at Reims, the effect of the two levels of stained glass on the west facade wall is undeniably impressive. Above is the great rose, with its delicate radiating tracery patterns, and below is the small rose. And in the north and south transepts are more magnificent rose windows. The colors of the stained glass at Reims animate the interior by bathing it in dappled multi-hued light. As the sunlight comes through the windows, a pattern of colored light is created that plays over the surfaces, moves with the sun, and changes with the seasons. The stone tracery divisions between the areas of glass at Reims have become much thinner than those at Chartres as the Gothic style becomes progressively more skeletal. The stone tracery forms complex patterns, which will become ever more intricate. The tracery of these elegant windows may be admired from the exterior, but the colors of the stained glass cannot. Stained glass may only be appreciated from the interior and is seen to advantage when the sunlight illuminates it from behind.

Bourges Cathedral, dedicated to Saint-Étienne (Stephen), was begun c. 1195 and most of the facade was finished by the end of the thirteenth century. Like the cathedral of Reims, that of Bourges is an example of the Classic or High Gothic architectural style. Bourges Cathedral is one of the reasons that the thirteenth century is described as a “golden age” of stained glass. The glass work was made at the same time the cathedral was built and is tied closely to the style and structure of the architecture. About 1,000 thirteenth-century windows survive at Bourges with 15,000 to 20,000 individual scenes and compositions. The windows here constitute one of the finest and most extensive collections of stained glass in France—in fact, anywhere.

At Bourges, as at Chartres, different local trades donated windows to their cathedral. For example, the bread-makers donated a window in which the scenes have to do with Saint John the Baptist, and “signed” their window with two scenes: in one, the bread is shaped into balls and, in the other, it is put into ovens. The details and the expressive faces are painted in grisaille.

The apse end of Bourges offers an especially splendid display of stained glass in the chapels and even between the chapels. The glass of the five apse chapels dates, for the most part, 1215–1225. The window depicting the *Story of the Prodigal Son* is seen in Color plate 18. The dense, intense colors of stained glass, dominated by reds and blues, are brilliant, even dazzling, in these thirteenth-century windows. Because the intended

audience was largely illiterate in medieval Bourges and elsewhere, the stories were told as clearly as possible through visual means. During the Middle Ages, these images served as the large scale, public, equivalent of picture books used for religious instruction.

In the *Last Judgment* window, an elongated angel makes a gentle gesture as he blows his horn for the resurrection to begin. The lines are more flowing and the drapery is softer than previously in twelfth-century glass. The same stylistic change may be observed in the depiction of a dying woman whose soul is welcomed by an angel—simple story-telling, charming and gentle in its style and comforting in its message. During the Middle Ages, the soul was represented as a little figure that emerged from the mouth of the deceased. In response to the angel's trumpeting, a resurrected man rises from his tomb and prays. His anatomy, rather than being accurately rendered, forms a pattern of curvilinear segments. In the Middle Ages, whether one's soul would be permitted to go to heaven above or condemned to hell below at the Last Judgment was determined at the Weighing of the Souls. The procedure was performed by Saint Michael using scales; thus, one's fate literally "hung in the balance." Here, the scales are shown tipping to indicate that this soul is saved, in spite of the efforts of one furry blue devil who cheats by pushing on the bar and another green demon who hangs on the scales. An angel conducts the saved souls to the bosom of Abraham, while the damned souls are shown on the road to Hell and then thrown into the Mouth of Hell. In Hell, they will have the company of a bishop and a king—no one is exempt from judgment. The entrance to Hell is described in medieval literature as a monstrous mouth, and is referred to as the Mouth of Hell or the Hell Mouth. Artists working in stained glass, and in other medieval media, created literal depictions of the Mouth of Hell as a monstrous creature, its mouth often equipped with fangs and flaming breath.

The importance of the subject of the Last Judgment to the medieval mentality, so preoccupied with sin and salvation, is made evident by its depiction not only in stained glass on the east end of Bourges Cathedral, but also in stone relief on the west facade. There, above the central portal, carved between the late thirteenth and early fourteenth century, the *Last Judgment* tympanum demonstrates that the same iconography was maintained across media. In both depictions, the dead emerge from their tombs, the souls are weighed in scales, those who are saved are taken by an angel to the bosom of Abraham, whereas the damned souls are conveyed to the Mouth of Hell.

The cathedral of Auxerre, which like that of Bourges is dedicated to Saint-Étienne, was built between the thirteenth and sixteenth century.

Today, Auxerre Cathedral contains sixty-nine stained glass windows that were made during the early thirteenth-century in the workshops at Chartres, Bourges, and elsewhere. Unfortunately, the lower parts of the windows were damaged when the Huguenots (French Protestants) attacked Auxerre in 1567. Before the end of the sixteenth century, restoration work was already underway and the lower portions were replaced. Additional restoration work was done in the nineteenth century. In the twentieth century, the panels were placed in their proper order and further restoration was undertaken.

The subjects are taken from the Bible and legends of the saints. The *Creation* window at Auxerre includes the *Creation of Eve* in which God raises Eve from the side of sleeping Adam. In the scene of *Original Sin*, Adam and Eve eat the forbidden fruit. If these depictions of Adam and Eve were the viewer's sole source of information on the construction of the human body, one would be led to believe that the portion of evolution involving the development of muscle and bone post-dated the Middle Ages. Natural color is less important than striking color; therefore, a tree trunk may be brilliant red. Intense rich reds and deep blues dominate the palette of thirteenth-century stained glass.

The windows of *Noah* inform the viewer that after the flood waters recede and the ark comes to rest on land, Noah cultivates the vines. But he imbibes too much of his own product, and becomes drunk. The windows of *Abraham* show him welcoming the angels and, with his wife, Sarah, serving them dinner. The scenes of *Joseph*, the son of Jacob and Rachel, show him being put in the well. Because he was his father's favorite child, and was therefore not obligated to work in the fields like his brothers, his brothers hated him. They took his coat, and threw him into a pit, variously represented in art as a cleft in rocky ground, a stone cistern, or, as seen here, a well.

In the scene of *Saint Martin Celebrating Mass*, God's hand appears to him. The *Death of Martin* shows the saint lying in bed, as an angel stands beside him, ready to take his soul to heaven. But a devil with a green face and blue body appears at the foot of the bed. Martin asks the devil, "What are you doing here, you terrible beast? You cannot do me any harm."

A similar dispatching of the devil is seen in the depiction of *Saint Eligius* (Eloi). Eligius actually lived c. 588–660 and was an accomplished French goldsmith who became a priest and then bishop of Noyon. He is the patron saint of goldsmiths, metalworkers, and blacksmiths. In this window, the devil comes to Eligius in his workshop and

tempts him, but Eligius uses one of his metalworking tools, his pincers or pliers, to grab the devil by the nose! As a result, the devil is shown to turn green. (A similar story is told of Saint Dunstan.) Because this book is concerned with medieval materials and methods, it may be justifiable to relate another story about Saint Eligius in which he shoes a horse, although it is not depicted in Auxerre's windows. The technique Eligius successfully used was first to remove the leg from the horse, then apply the shoe, and, finally, reattach the leg.

Saint Nicholas was especially popular in medieval Auxerre because he was the patron saint of barges, and river barge was the only way to get from Auxerre to Paris, and the only way to transport important goods such as wine. In the scenes of *Saint Nicholas*, the bishop of Myra is shown lying on his deathbed. On the right, Nicholas kneels outside the church. In the next tier, on the left, an angel explains that the way to select a new bishop is to pick the next person who enters the church—a simple system of selection. Nicholas is seen on the right, going to the church.

Perhaps the ultimate example of an evocative environment created by stained glass is that offered by the interior of the Sainte-Chapelle (Holy Chapel), a neighbor of Notre-Dame Cathedral on the Île de la Cité, an island in the Seine River in the center of Paris. The exterior was built between 1241 or 1243 and 1248. According to early sources, the architect was Pierre de Montreuil, the most famous architect in mid-thirteenth-century Paris. He is known to have designed the transepts of Saint-Denis and to have worked on the transepts of Notre-Dame in Paris, both discussed below.

The Sainte-Chapelle is comprised of a lower chapel and an upper chapel. Standing inside the upper chapel on a sunny day, visitors might imagine themselves to be inside a multi-colored, multi-faceted, sparkling gem. The skeletal supporting structure that characterizes Gothic architecture has been employed here to construct a seemingly delicate cage of glass. The external buttressing system, which resists the lateral thrust exerted by the vault and prevents the building's collapse, is unseen from the inside of the Sainte-Chapelle because one cannot see through stained glass. The visual impact of the Sainte-Chapelle is oriented to the interior. The intervals between the structural piers are filled by huge stained glass windows that replace the walls; more than three-quarters of the height of the wall is stained glass rather than stone masonry. The windows are almost 50 feet high and rise up to the vault. In fact, the windows soar so high that the little scenes on the upper level cannot be seen clearly from

the floor by the naked eye. Each window in the apse consists of two lancets with three trefoils at the top. On the north and south side long walls, each bay includes four windows grouped into two pairs with quatrefoils and roses at the tops.

The stone tracery is used to create a different pattern in each bay. Iron bars are required as reinforcement due to the large size of the windows. Within the windows are many different border patterns. The fleur-de-lys, the arms of King Louis IX, and the castles of Castille for his mother, Blanche of Castille, appear often, along with stylized leaves. Typical of mid-thirteenth-century glass, the dominant colors are red and blue.

The entire program of the windows in the upper chapel relates to Jesus's Passion. The Sainte-Chapelle was built by Louis IX, also known as Louis the Pious and Saint-Louis, for relics from the Passion that he had acquired at enormous expense and after lengthy negotiations. Of special importance among these relics was what was believed to be a portion of Jesus's crown of thorns.

On the north side, starting at the facade and moving always to the right, the cycle begins with *Genesis* and the creation of the earth in the first window. The *Book of Exodus* follows in the second window with the stories of Joseph and Moses. The third window depicts the *Book of Leviticus* and the *Book of Numbers*. In the fourth window, the subjects are the *Book of Deuteronomy* and the *Book of Joshua* with the fall of Jericho. The *Book of Judges* with the story of Samson and Delilah appears on the fifth window. The roundel of *Samson and the Lion* (Photo 8.1), made c. 1250 for the Sainte-Chapelle, is now in the Musée National du Moyen Age, Paris. Samson's cloak flies out as he straddles the lion to grab its jaw, while the lion braces himself against the red border with a foreleg. In lieu of shrubs or trees, nature is abbreviated to a non-naturalistic shorthand system in which the landscape includes what appear to be four red artichokes.

In the sixth window, the *Book of Isaiah* occupies the left lancet and the *Tree of Jesse*, a frequently depicted subject already noted elsewhere, occupies the right. The seventh window tells the story of *Saint John the Evangelist* in the left lancet, which includes John embarking for the island of Patmos and John in the caldron—he was boiled in oil but remained unharmed—the more interesting or more picturesque events are selected for portrayal. The right lancet tells the story of the childhood of Jesus, including the *Annunciation*. The angel Gabriel, wings overlapping the border, informs Mary, with head humbly bowed, that she will bear a



Photo 8.1 ***Samson and the Lion***, from the Sainte-Chapelle, Paris, French, c. 1250, stained glass roundel, diameter 23 1/4 in. (59 cm.) Musée National du Moyen Age, Thermes de Cluny, Paris. Inv. Cl.23723. Photo: Franck Raux. Réunion des Musées Nationaux/Art Resource, NY.

child. The *Visitation* shows Mary, pregnant with Jesus, and her cousin Elizabeth, pregnant with John, exchanging this news. In the *Birth of Jesus*, Joseph sits at Mary's feet, head on hand, as the shepherds are told of Jesus's birth.

The eighth window is that in the central apse, which depicts the *Passion of Jesus*. An early example of a figure who engages the viewer by making eye contact is seen in the *Kiss of Judas*. The Sainte-Chapelle windows are less carefully painted than the earlier windows at the cathedrals of Chartres and Bourges, and there is an element of repetition within the Sainte-Chapelle scenes. Yet the figures are supple and spontaneous, vigorous and vital. Their gestures and poses tell the tales and convey their emotions with clarity.

To follow the sequence, the viewer must continue to walk left to right, turning next to the south wall. Here, in the ninth window, the left lancet deals with the story of *Saint John the Baptist*. Part of the skull of John the Baptist was said to be among the relics kept at the Sainte-Chapelle. The right lancet is concerned with the *Book of Daniel*. The tenth window focuses on the *Book of Ezekiel* and his prophecies. The eleventh window depicts scenes from the *Book of Jeremiah* in the left lancet and *Tobias* in the right lancet.

The twelfth window deals with the *Books of Judith* and *Job*. Here, atypically, the viewer must look across both lancets to follow the stories; that of Judith is at the bottom and that of Job is at the top. The representation of the invasion by the army of Holofernes includes soldiers riding horses of the three primary colors. The story of *Esther* is told in the thirteenth window. In the fourteenth is the *Book of Kings* and the story of *David*. The Sainte-Chapelle windows will come to influence those at Tours, Le Mans, Soissons, and elsewhere.

The fifteenth and final bay depicts the story of the *Relics of the Passion*. To follow the narrative in this window, as in the twelfth window, the viewer must read across both lancets. The sacred relics of Jesus are shown being moved first to Constantinople, next to Venice, and then on to Villeneuve-l'Archevêque where they are acquired by Louis IX. The relics are then taken to Sens and finally to Paris. Contemporary history is shown in only this window; that this was intended to associate the king of France with the kings of the Bible has been suggested.

Were these windows created by several workshops? Or were they done, as art historians say, by several "hands" working under a single master? It is likely that one guiding mind established the program, the iconography, and its sequence of presentation. But this may not have been the same person—or people—who designed the individual compositions.

Early restorations were made to the glass at the Sainte-Chapelle, starting at the end of the thirteenth century, in the fourteenth century, and in the fifteenth century. Some minor changes were made in the eighteenth century. During the French Revolution, significant damage was done to the glass and valuable objects were taken from the Sainte-Chapelle, which then became a meeting place for a political organization. From 1803 to 1837, the building was used as storage for the judicial archives; shelves were erected, destroying the glass for more than six feet from the bottom. Whole panels from lower areas were used to fill in upper areas. Some panels were sold. Later in the nineteenth century, major

restoration of the stained glass was undertaken. All that was post-medieval in date or was not originally in the Sainte-Chapelle was removed. New, good, imitations were inserted. About one-third of the glass was modern at that point. During times of war, the glass windows were removed from the building. The Sainte-Chapelle's glass underwent further restoration that was completed in 1983.

The windows here, although restored and incomplete, form one of the major medieval collections of stained glass. There are fifteen thirteenth-century windows, and one fifteenth-century window—the rose on the west facade. For the mathematically-minded reader, there are a total of 6,652 square feet (618 square meters) of glass.

To follow the history of stained glass, it is necessary to return to the royal abbey of Saint-Denis (Abbot Suger's early windows in the apse were discussed above), because the stained glass windows in the north and south transepts were made in the middle of the thirteenth century. In a daring demonstration of the extent to which a stone wall may be perforated, the rose window, spandrels, and triforium, all of glass, create a skeletal lacy web. The stone tracery was made progressively thinner, more complicated, and more important to the overall effect. The north transept rose window is the first big rose of the Rayonnant style of Gothic architecture, the name derived from the radiating patterns of tracery in the rose windows. The north transept rose window depicts the *Tree of Jesse*, while the south transept rose window, slightly later in date, depicts the *Gregorian Calendar and the Signs of the Zodiac*.

The Cathedral of Notre-Dame in Paris, which replaced an earlier building on the same site, was started in 1163 and finished in 1235. However, fundamental remodeling began almost at once, including work on the north and south transepts. The transept facades also date to the mid-thirteenth century, but are thought to post-date those at Saint-Denis. An inscription on the south porch says it was begun in 1257 by the mason Jean de Chelles. The architect Pierre de Montreuil, mentioned above in conjunction with the Sainte-Chapelle and presumed to have worked at Saint-Denis, was also noted to also be associated with the Notre-Dame transepts. In fact, these transepts imitate the Rayonnant style transepts at Saint-Denis. Notre-Dame's transepts must be rated as an extraordinary accomplishment in stone and glass, an achievement in slender delicacy and structural daring.

The subject depicted in the south rose window is *Jesus Surrounded by Saints and Angels*. This window has been restored since the eighteenth

century. The north rose window depicts *Mary Surrounded by Old Testament Figures*. This window dates to 1265, and is nearly as it was originally. Notre-Dame's transept windows will be copied by other churches.

Notre-Dame's west facade rose window depicts *Mary* in the center, surrounded by the kings of Judea; then virtues; vices; signs of the zodiac; and the labors of the months. This window was greatly restored in the nineteenth century by Viollet-le-Duc. The subjects depicted at Notre-Dame can be found elsewhere, in stained glass and in other medieval media.

The technique of grisaille, discussed above, initially used to paint details on colored glass, may also be used as a technique in itself. An excellent example of extensive use of grisaille is seen at the tiny church of Saint-Urbain at Troyes, which was partially built 1262–1286, although more work was done in the fourteenth century, and the building remained unfinished until the nineteenth century. The exterior of the church is of extreme delicacy. The interior is in the Rayonnant Gothic style and dates to 1262–1275. This interior is said to have a quality of being “alive” because its appearance is continually changing as colored light moves over the walls and floor. The openings in the walls are now so large that perhaps it would be more accurate to describe them instead as “frames.”

The choir glass at Saint-Urbain (Color plate 19) includes a depiction of *Jesus Crucified*, flanked by patriarchs and prophets, from c. 1270 or the end of the thirteenth century. The figures are made of colorful stained glass, while the nonfigurative panels are decorated with patterns of grisaille. This technique of painting on glass became particularly popular from the mid-thirteenth century and throughout the fourteenth century when the size of windows was especially large. Grisaille windows are less costly to produce than windows composed of many tiny pieces of stained glass. Perhaps the popularity of grisaille was due, in part, to the expense of the expanse of the window areas to be glazed. As Saint-Urbain demonstrates, grisaille and stained glass may be successfully combined. The style of ornament, in general, shows less interest in detail now than in the earlier years of stained glass, has become simpler, more geometric, and has been described as “dry.” The style is similar to that in contemporary manuscript miniatures—on a greatly enlarged scale.

The *Adoration of the Magi* (Photo 8.2), a portion of a lancet window that depicts *Scenes from the Life of Jesus*, from the Schlosskapelle (Palace Chapel) in Ebreichsdorf (south of Vienna), Austria, was made in



Photo 8.2 *Adoration of the Magi* from *Scenes from the Life of Jesus*, Austrian, from the Schloßkapelle, Reichartsdorf, c. 1390, pot metal and colorless glass, with silver stain, vitreous paint, and sgraffito on flashed glass, portion of lancet window. The Metropolitan Museum of Art, The Cloisters Collection, New York, 1986 (1986, 285.1 and 285.2). Image © The Metropolitan Museum of Art.

Vienna in a royal workshop, c. 1390. Created from stained and colorless glass, silver stain, vitreous paint, and sgraffito on flashed glass, this window demonstrates the richness of effect achievable by combining several methods. The colors are brilliant and varied. Much of the information is conveyed by painting on glass rather than through the use of many small sections of variously colored glass, as was done in earlier windows. A wealth of charming, if incidental, details are included such as the donkey eating the grass within a wattle fence or Mary's straw mattress. The Gothic architectural framework above receives almost as much attention as the figures and reflects the elaborate style of contemporary architecture. This architecture creates sense of shallow depth that is negated by the flat, decoratively patterned backgrounds.

The increased size of the pieces of glass and the corresponding increase in the use of painting on glass is seen in a depiction of the



Photo 8.2 (*Continued*)

Annunciation to Mary (Color plate 20), perhaps made in a Cologne workshop, c. 1450. Painting was done in grisaille on white translucent glass. The yellow was created by using silver stain. Shades of gray were created by areas of matte grisaille which were then stippled to create the subtle gradations of tone that are seen, for example, on the drapery of the angel Gabriel or Mary. The artist made a notable attempt to create the impression, if not an illusion, of an interior space—a challenge when working in stained glass. Turning away from the two-dimensionality and flat decorativeness of earlier stained glass in favor of a more three-dimensional pictorial approach, the ceiling and walls are drawn in perspective. The earlier awkwardness is gone, but so is the appeal of the stained glass technique. This looks instead like a painting that happens to be executed on a glass surface, rather than adapting the style with which the subject is depicted to the nature of the stained glass medium and emphasizing the qualities specific to that medium, as in earlier centuries.

Late stained glass is seen at the Sainte-Chapelle in Paris where a huge rose window was constructed on the west facade in the fifteenth century (the thirteenth-century glass of the upper chapel was discussed above).

This rose window demonstrates the then-fashionable Flamboyant Gothic style, characterized by flamelike undulating tracery—in contrast to the straight radiating tracery of the preceding Rayonnant Gothic style.

The subject of the rose window is the *Last Judgment* according to the *Revelation* of John. God is in the center, surrounded by the seven candlesticks and the seven churches of Asia. Included are the elders of the Apocalypse; the horsemen of the Apocalypse with the seven seals; the angels holding back the winds; and the elect. At the top, the Last Days are represented, as the trumpets are blown, and disaster is everywhere. The seven-headed dragon and the seven-headed beast are also portrayed. Two centuries after the upper chapel windows, not only is the style of tracery different but so are the style of the stained glass and its colors. Many of the rich reds are gone and the colors are no longer as saturated or deep. Instead, colors such as yellows, various pinks, lavenders, purples, and greens are introduced. In the fifteenth and sixteenth century, colors gradually became lighter, more transparent, the tonalities often pale. White glass was frequently used.

Post-medieval stained glass windows are found in medieval buildings. Bourges Cathedral, discussed above, contains many fifteenth- and sixteenth-century windows in the nave aisles. At Troyes Cathedral fine examples of fifteenth- or early sixteenth-century glass may be seen in the nave windows. The pieces of glass are quite large. Much of the effect is due to painting on white glass. The depiction of the *Mystic Press-Room* at Troyes Cathedral, of 1625, demonstrates the tendency of stained glass windows created after the Middle Ages to look progressively more like paintings on glass.

Today, medieval stained glass may be seen in the company of its modern descendants. At Reims Cathedral, also discussed above, the thirteenth-century medieval glass in the choir forms a striking contrast to modern glass there by the Russian-born artist Marc Chagall (1887–1985).

In conclusion, the decline of stained glass after the Middle Ages is related only in part to changes in stained glass technique or in architectural construction. Another factor was the rise of tapestry as a developed art form from the fourteenth century on, which resulted in a diminished role for stained glass and displaced it from its position of importance in the decorative arts. Therefore, tapestry is discussed in the following chapter.



Tapestry and Other Textiles: Adept with Warp and Weft

Materials and Methods of Tapestries and Other Textiles

Textiles were of great importance during the Middle Ages. Richly woven and embroidered fabrics were used ceremonially, in churches and cathedrals, particularly around the choir and between the nave pillars on feast days. Tapestries were displayed in public buildings and especially on interior castle walls. They were carried through the streets during triumphs and other important events.

The term *tapestry*, as used in reference to medieval textiles, requires both explanation and clarification. Perhaps the most extreme example of how loosely and inaccurately the term is applied is provided by the famous *Bayeux Tapestry* (Color plate 21), which is not a tapestry at all but embroidery executed on coarse linen. Embroidery consists of a design made of variously colored threads sewn onto a pre-existing piece of fabric, whereas tapestry is woven so that the design and fabric are formed simultaneously.

The medieval tapestry industry developed from the existing wool cloth industry. Tapestries were produced in ateliers within the control and organization of the guild system. If a set of tapestries was to be produced, as was often the case, several looms were employed which were worked concurrently by several groups of weavers.

The production of a tapestry consists of three stages. First, a painter produced a small-scale color drawing of the image to be woven. Because

the finished image is an inversion of the artist's original design, the artist must write numbers, letters, and words backward, and if a figure is intended to appear to do something that requires use of the right hand, such as brandish a sword or knife, that figure must be drawn using the left hand in the cartoon.

When the drawing was completed, the second stage required the cartoon-maker to enlarge the artist's image to the dimensions intended for the tapestry. This was the job of a specialist who worked on linen or paper. Our word *cartoon* comes from the Italian word *cartone*, which means a large piece of heavy paper. It was common practice to reuse someone else's cartoon design, or to invert it, or a portion of it, and call it your own. Reuse sometimes resulted in figures and objects appearing out of context (which would seem to explain some otherwise exceptionally obscure iconography, eluding the art historian's incessant quest for explanations for everything). Unfortunately, no medieval cartoons have survived. The oldest extant examples date from the early sixteenth century. The most famous Renaissance tapestry cartoons are those made by the Italian master Raphael, now in the Victoria and Albert Museum, London.

Precisely who was responsible for each task in the manufacture of a tapestry was firmly established by custom and maintained by law. To illustrate this point, consider the following story: in Brussels, in 1476, the painters brought a lawsuit against the tapestry weavers, the painters' objection being that they had had no part in designing the cartoons for a tapestry. They complained that the cartoons had instead been done by weavers who were not members of their guild. The city magistrates ruled in favor of the painters on this legal issue. The weavers were then restricted to designing no more than things such as "backgrounds, trees, shrubs, and animals." The painters were to have the work of designing the figures and everything else.

The third step required the weaver to translate the cartoon into actual tapestry. The loom is strung with evenly spaced warp threads of wool that are tightly twisted, coarse, and undyed. The number of warp threads per inch determines the degree of fineness of the tapestry. The main lines of the cartoon are transferred to the warp threads or, alternatively, the cartoon may have been placed behind the warp threads. The warp threads will eventually be hidden by the weft threads. Most of the weft threads used in medieval tapestries are of wool, much of which originated in England. Wool was sent from London to Bruges, and then dispersed from there. Some tapestries include silk weft threads, and some make use of silver or gold threads, made by winding very thin strips of

silver or gilded silver around silk strands. Unfortunately, silver tarnishes, the result being that what was intended to be bright, light, and glittery gradually becomes dark and dull.

High warp looms and *low warp looms* were used to make tapestries. On a high warp loom, the warp threads are stretched vertically and held tight between rollers. For centuries, high warp looms were the norm in France. Unfortunately, no fifteenth or sixteenth century looms survive, nor are medieval depictions of them known. However, medieval high warp looms are believed to have been much like those recorded in post-medieval illustrations of high warp looms and such looms are still used in the manufacture of Gobelins tapestries.

The outlines of the design are marked on the warp threads. Because tapestries are worked from the back, the weavers, sitting side-by-side, must peer around, or look in a mirror, to see how their work is progressing. On the loom, the warps were divided into odd and even threads which may be easily separated, thereby creating a *shed* through which the weft threads are quickly passed. The *shed rod* keeps the odd and even warps divided.

Low warp looms, popular in Flanders, developed from the shuttle loom. As on the high warp loom, the warp is stretched between two rollers, but in a horizontal plane rather than a vertical one. *Heddles*, used to create sheds in small areas, were controlled by foot using pedals, rather than by the weaver's hands as on the high warp loom. As a result, when working on a low warp loom, the weaver has both hands free. The cartoon is placed beneath the warp, which is easier than transferring the design to the warp threads. Here, too, the weavers sit side-by-side, each working on only a small area, from the back of the tapestry. The biggest problem with the low warp loom is that of seeing the work as it progresses. When a tapestry is finished, it is often difficult to determine if it was produced on a high warp or low warp loom.

In the actual weaving process, areas of solid color are woven in a simple one-to-one pattern; that is, the weft thread goes over one warp, then under one warp, over one, under one, and continues in this manner. When the weavers create the design, every change in color requires a change of thread; one thread must be discontinued by being tied off and another tied on. This may leave a slit which, if long, will weaken the tapestry and must be sewn up. Small slits are sometimes used as part of the design because they create a shadow. The weaver may do what is known as *dovetailing* of the wefts around the warps, using *single interlocking* or *double interlocking* of the wefts.

The weaving of a tapestry is a tedious and exceedingly slow process. The question, "How long does it take?" is often asked. In fact, several years might be required to produce a single tapestry. A more precise answer depends on the number of threads per inch and the complexity of the design. Although an oversimplification, the rate of weaving may be estimated to have been approximately a little more than one square yard (slightly less than one square meter) made per person, per year! Some tapestries were enormous in their dimensions; a tapestry made in the fifteenth century was recorded to be over 126 feet (38.4 m) long. Because a tapestry is woven on its "side," the loom only has to be as wide as the tapestry is high. When finished, the tapestry will be turned and will hang on its weft threads.

The wool and silk weft threads used to weave the tapestry were colored with vegetable dyes; weld, woad, and madder make the primary colors yellow, blue, and red, respectively. The medieval method of making yellow from weld was to chop and dry the stems, leaves, and seeds of the plant. Weld produces a more permanent dye than most other natural dyestuffs. To produce a blue dye from woad, the leaves are allowed to ferment, then broken and moistened, allowed to ferment again, and mixed with lime water to obtain the color. (Later, in the sixteenth century, indigo was used for blue.) To make red dye from madder, the roots of the plant are ground. The medieval tapestry weaver's palette was limited to about thirty tones, plus the threads wrapped with gold or silver. In the Renaissance, color gradations became subtler as the number of tones increased. In the eighteenth century, a tapestry was woven with, it was said, 587 tones. The colors are made to appear to blend into one another by weaving with *hatchings* or *bachures*.

To fully understand the method of construction of a particular tapestry, it must be studied not only from the front but also from the back, which is usually hidden today by a canvas support or backing that has been applied with the intent of reinforcing the tapestry. Underneath that backing is evidence of the history of the tapestry—the inevitable repairs, and perhaps even changes, made over the centuries.

Tapestries are affected very little by cold and damp. They were used to embellish interior walls in northern Europe, where the climate would have been unreceptive to the frescoes painted on walls in southern Europe. Yet only a small percentage of medieval tapestries survive. Some have been destroyed by small animals, especially mice and squirrels. Others have been ruined by insects, especially moths with a taste for wool. Still others have been damaged by human fickleness in fashion,

for when tapestries went out of vogue, these medieval treasures were likely to have been misused.

The viewer of a tapestry, at first glance, may be struck by its technique and more impressed by the weavers' accomplishment than by the subject portrayed. Tapestry is not the medium of choice if the artist's (or patron's) goal is to trick viewers into the believing that they are seeing something other than woven fabric. It is an ideal medium, however, if the intent is to impress viewers with the owner's wealth, for possession of tapestries was a medieval sign of rank, power, and prestige. Tapestries were used not only for decoration, but also for thermal insulation. Tapestries may serve a practical purpose in that they were used to minimize drafts coming through the stone walls of medieval castles. Additionally, they may be used to muffle noise in large rooms. Tapestries were routinely moved as their owners relocated from one castle to another, the tapestries taken down off the walls, rolled up, transported, unrolled, and hung on nails in the next building. Not only were tapestries simply hung on walls, they were also wrapped around corners, and were even cut to fit the space available.

From the fourteenth century on, tapestry production was a major and well-organized industry focused in northern Europe. Several cities dominated early tapestry manufacturing—Paris, Arras, and Tournai; later important cities were Brussels, Gobelins, and Aubusson. Significant tapestry weaving was also done in Belgium in Ghent, Louvain, Enghien, Audenarde, and Malines (Mechelen); in northern France in Lille and Valenciennes; and in The Netherlands in Middelburg.

The oldest tapestry ateliers in western Europe were those in Paris, mentioned in 1302 or 1303. The famous name associated with early Parisian tapestry is that of Nicholas Bataille (c. 1363–1400), responsible for the *Nine Heroes* tapestries, now at The Cloisters in New York, and the *Angers Apocalypse* tapestries, now in the château of Angers. But Nicholas Bataille's name is associated with so many tapestries that they cannot all have been made on only his looms. In the early fifteenth century, Paris ceased to be a center for tapestry production. The English occupied Paris in 1420, and may have intentionally eliminated this source of competition.

Arras had a significant tapestry industry at the end of the fourteenth and beginning of the fifteenth century when it took the lead in tapestry production from Paris. In fact, the ruin of Paris, which presumably provided Arras with commissions and weavers, was a result of the Hundred Years War (that actually lasted from 1337 to 1453) waged between the two royal families (Valois and Plantagenet/Anjou) seeking the French kingship.

Tournai was the rival of Arras and, in the second half of the fifteenth century, Tournai overtook Arras in production to become the leading manufacturer of tapestries, exporting them through the port cities of Bruges and Antwerp. Tournai tapestries tend to have dramatic compositions—crowded, even chaotic, with active figures and forms. It is known that Tournai tapestries were patronized by the Burgundian court and that many were ordered by Duke Philip and Duke Charles from Pasquier Grenier (d. 1493). In 1449, Pasquier Grenier was referred to as a *marchetier*, which is thought to mean a low warp weaver. He was a wealthy and successful businessman who imported wool, silk, gold, and silver. He owned significant real estate and was also a wine dealer. Although much work is linked to Pasquier Grenier, his role in the actual style of the tapestries is unclear. It is known that he commissioned cartoons and kept them in stock; he must have distributed work to smaller ateliers outside Tournai.

In Brussels, the names of 500 weavers working under Philip the Good are known. Brussels took the lead toward the end of the fifteenth century and dominated in the sixteenth century. Brussels tapestries offered superior design, technical execution, and organization in production. Brussels weavers, like those of Tournai, used the faster low warp looms. The “golden age of tapestry” in Brussels was approximately 1480 to 1520. During this time, the two celebrated *Unicorn Tapestries* series (on display at the Musée National du Moyen Age in Paris and The Cloisters in New York) are believed to have been woven there.

Because many cities, towns, and even villages had looms, a major tapestry series could be created during the Middle Ages in a reasonable amount of time by dispersing the extremely labor-intensive work to many weavers in different locations. Further, it is assumed that tapestry designers, cartoon-makers, and weavers were itinerant, as was the norm for late medieval artists in northern Europe. For example, records show that, in 1456, the magistrates of Arras complained that their weavers were leaving this city for other cities such as Valenciennes, Tournai, and Bruges. There is some evidence of tapestry production in Italy, in Ferrara, but that was the exception. Italian patrons, generally employed weavers from the north for such artisans were highly mobile. Consequently, techniques and styles were dispersed. If documentary evidence is lacking, it is difficult, if not impossible, to determine the location and atelier in which a specific tapestry was made solely on the basis of style.

Certain subjects were popular for tapestries. Favorites from ancient history include the Trojan War and Alexander the Great. Preferred Old

Testament subjects were stories that could be interpreted as prefigurations of Jesus, and the story of Esther. New Testament Christian subjects included the lives of Mary and of Jesus. Various aspects of contemporary life of different levels of society were recorded; genre scenes of peasants, shepherds, woodsmen, and hunters are set in landscapes, while members of the noble class are seen in cultivated gardens and courtly surroundings. Mythological creatures and monsters were included among the subjects depicted in tapestry. Even philosophical and allegorical topics were part of the repertory.

Masterpieces of Tapestries and Other Textiles

In spite of the fame of the *Bayeux Tapestry*, its provenance is uncertain. It is sometimes called *Queen Matilda's Tapestry* because it was incorrectly attributed to William the Conqueror's wife, Matilda, in the eighteenth century. It is believed to have been embroidered in the late eleventh century. The label *Bayeux Tapestry* is half accurate as the work is in Bayeux, France, but if its method of fabrication were described with accuracy, as mentioned at the beginning of this chapter, it would be called the *Bayeux Embroidery*. In fact, it is made of eight pieces of linen, seamed together, so that the work measures approximately 231 feet (70.41 m.) long, but only about 19 1/2 inches (49.5 cm.) high. The embroidery is done in wool threads in a restricted range of eight colors: three blues, two greens, a red, a yellowish buff, and a grey. On it are a total of fifty-eight scenes that tell the story of the Norman conquest of England in 1066 by Duke William of Normandy, known thereafter as William the Conqueror. To clearly relate the story, the figures are labeled and there are captions as well.

The narrative begins in 1064. The Anglo-Saxon King Edward of England, also known as Edward the Confessor (r. 1042–1066), is identified by the embroidered letters EDWARD REX. Because King Edward outranks everyone else, he is the largest figure in the scene—size equates to importance in this visualization of hierarchy. It is thought that when Edward's cousin, Robert the Magnificent, duke of Normandy, went on pilgrimage, Edward was named as one of the guardians of Robert's illegitimate son, Duke William I of Normandy. Because Edward was childless, he chose William to be his heir. Edward is depicted sending Harold of England to Normandy to tell William this news. William and Harold travel to Bayeux on horseback. They are shown entering the city, which looks like a theater prop. Harold swears fealty to William.

On his deathbed, however, Edward names Harold his heir. And Harold, in spite of the vow of loyalty he had taken to William, is crowned king of England in January 1066. William sends an envoy to Harold to remind him of his promise. Harold ignores the reminder.

As the story continues, Halley's Comet is shown speeding through the sky. During the Middle Ages, knowledge of the future was often considered to reside with the stars; astrology was popular and considered a reliable source of information about the future. A comet was believed to foreshadow impending disaster. The comet was actually seen at Easter. Some people are shown pointing to the comet, while others run to tell the king. Harold is informed of the comet with clear theatrical gestures, and interprets the comet as a sign of terror. William's astrologer, however, says it is a good sign for him. Both predictions will prove correct. William appeals to the pope, who sides with William and excommunicates Harold. William is diplomatic, but also devious and daring. The boats shown in the border below are a foreshadowing of what is to happen.

William prepares to travel. Arms and provisions are transported to ships. Men are shown carrying hauberks of mail (transported on poles), helmets (held by the nasals), and swords. Food and drink, including casks and wineskins, are loaded. Duke William's vessels arrived at Pevensey on September 28, 1066. William had 12,000 knights and foot soldiers in 696 ships and smaller boats. His equipment and forces were financed by the treasuries of the cities of Rouen and Caen. The colorful striped boats float on the wavy white water as the sails billow in the wind.

The *Bayeux Tapestry* offers not only an account of historical political events, but also information about eleventh-century military maneuvers and life. At Pevensey, a feast of honor is served and William is shown enjoying the banquet. Soldiers dine on roasted fowl on spits and fish on the table. The embroidery records how they ate—a process that did not involve forks at a time in history when fingers sufficed.

Thus fortified, the Normans advance in battle array to attack England. The horses overlap, suggesting a degree of depth, yet many have been deprived of rear legs. The wrestlers in the upper border alert the viewer to the conflict to come. The Battle of Hastings, which took place on October 14, 1066, is shown as agitated, animated combat between King Harold of England and Duke William of Normandy (Color plate 21). Initially, the Norman cavalry was repulsed. Harold had positioned himself on a landspur six miles northwest of Hastings. The English fought on foot with the cavalry behind. But the Normans reversed this; they came on horseback and fought with sword and spears, with

their archers behind. Riders are shown to be thrown from their horses. The dead—horses and humans—are depicted in the border below. The drama culminates in the death of Harold, clearly depicted to be the result of an arrow in the eye. Thus Duke William of Normandy wins the Battle of Hastings, unites England and Normandy, and becomes known as William the Conqueror. William was crowned king of England on Christmas Day in Westminster Abbey.

The whole story is laid out much like today's comic strips, with a series of scenes set in chronological sequence. Although there are no firm divisions between the scenes, where one ends and the next begins is evident. Everything is rendered in visual shorthand. The abbreviated settings include just enough to indicate the locations. Buildings are depicted without benefit of perspective. The weightless figures hover rather than stand.

The earliest extant true tapestries date from the twelfth century. Tapestry became an important artistic medium in the fourteenth century. A notable example from the second half of the fourteenth century is the celebrated set of large tapestries known as the *Angers Apocalypse*, mentioned previously, from the cathedral of Angers, now in the château of Angers, in the Musée de la Tapisserie (de l'Apocalypse). The subject of the Apocalypse, or Revelation, was popular in Gothic art. This prediction of the catastrophic events at the end of the world is found in the last book of the New Testament, written by Saint John the Evangelist, c. 95–100 CE, perhaps on the island of Patmos, where he had been exiled by the Roman Emperor Domitian. The tapestries were ordered in 1373 by Louis I, duke of Anjou, one of the brothers of King Charles V of France. The designs, based on cartoons made by Hennequin de Bruges (known in Flemish as Jean Bondel), court painter to Charles V, had been inspired by an illuminated Apocalypse manuscript. Weaving was done in the Paris studio of Nicholas Bataille. Work started in 1377 and was finished c. 1380 or 1387.

The *Angers Apocalypse* tapestries offered one of the most complete representations of the Apocalypse. Originally, when the entire series was intact, the biblical scenes were each depicted with a red or a blue background, in an alternating sequence. Among the surviving scenes is a depiction of the *Seventh Seal and the Seven Trumpets* as described in Revelation 8:1–2, "And when he had opened the seventh seal, there was silence in heaven about the space of half an hour. And I saw the seven angels which stood before God; and to them were given seven trumpets." The tapestry of the *Angel with the Censer* is based on Revelation 8:3, "And

another angel came and stood at the altar, having a gold censer, and there was given unto him much incense, that he should offer it with the prayers of all saints upon the golden altar which was before the throne.” The tapestry of the *Fourth Trumpet: The Eagle of Woe* depicts Revelation 8:13 which says, “And I beheld, and heard an angel flying through the midst of heaven, saying with a loud voice, Woe, woe, woe to the inhabitants of the earth....” The *Fifth Trumpet: Locusts* derives from Revelation 9:7–10, “And the shapes of the locusts were like unto horses prepared unto battle; and on their heads were crowns like gold, and their faces were as the faces of men. And they had their hair as the hair of women, and their teeth were as the teeth of lions.... And they had tails like unto scorpions, and there were stings in their tails....” The representation of the *Sixth Trumpet: the Angels of the Euphrates* portrays Revelation 9:14, “Saying to the sixth angel which had the trumpet, Loose the four angels which are bound in the great river Euphrates....” The tapestry of the *Battle of the Angels against the Dragon* is based on Revelation 12:7, “And there was war in heaven: Michael and his angels fought against the dragon; and the dragon fought against his angels.... And the great dragon was cast out, that old serpent, called the Devil, and Satan, which deceiveth the whole world....” The angels descend from the clouds and attack the beast, piercing him with their long lances and swords. The dragon that has fallen to the ground, equipped with bat wings and seven heads with notable teeth, makes his final fruitless effort. In *Babylon Invaded by the Demons* (Photo 9.1), Revelation 18:2 is illustrated, for “Babylon the great is fallen, is fallen, and is become the habitation of devils, and he hold of every foul spirit, and a cage of every unclean and hateful bird.” The animated figures who watch this event are elegant and courtly, while the several demons are wonderfully monstrous, and the angels descend from ruffled clouds. The architecture of Babylon recalls a stage set, as does the landscape. The patterned blue background looks much like a stage curtain.

Although the tapestries originally told the entire story of the Apocalypse, certain episodes have been lost. However, in view of their poor treatment after the Middle Ages, they are actually remarkably well-preserved. After the French Revolution of 1789–1799, these tapestries were used to wrap orange trees to protect them from bad weather. At another time the tapestries were used to pad horse stalls. Today, seventy-one scenes are partially intact.

Perhaps also from the workshop of Nicholas Bataille were the *Nine Heroes* tapestries, mentioned previously, made c. 1385, now in The



Photo 9.1 Nicholas Bataille and Hennequin de Bruges (Jean Bondol), *Babylon Invaded by the Demons*, from the set of tapestries known as the *Angers Apocalypse*, woven for Louis I, duke of Anjou, commissioned 1373, made 1377–c. 1380/1387, from the cathedral of Angers. Musée des Tapisseries (de l'Apocalypse), Château d'Angers, Angers. Erich Lessing/Art Resource, NY.

Cloisters, New York. Originally there were three tapestries with three heroes portrayed on each, but now some portions are lost. The concept of the *Nine Heroes* derives from a poem composed in 1310 by Jacques de Longuyon. The nine are comprised of three heroes from antiquity (Alexander, Hector, and Julius Caesar), three Hebrew heroes (Judas Maccabeus, Joshua, and David), and three Christian heroes (King Arthur, Charlemagne, and Godfrey of Bouillon, leader of the First Crusade). In spite of the fact that these heroes lived in different times and places, everyone is dressed in late fourteenth-century courtly fashion. The depictions of the courtiers who are also included in the tapestries in ancillary areas provide excellent documentation of the costumes and pastimes of late fourteenth-century nobility. In this glimpse of court life, a cat is serenaded by stringed musical instruments.

Included in the *Nine Heroes* tapestries are the arms of Jean, Duke of Berry (1340–1416), in the form of the fleur-de-lis on a blue background with a red border. Jean de Berry was another of the younger brothers of

King Charles V and a great patron of the arts. Tapestries were noted to be luxury items, to be collected and coveted, and in the late fourteenth and early fifteenth centuries, four brothers competed with one another in collecting them: Charles V, king of France; Louis, duke of Anjou; Jean, duke of Berry; and Philip the Bold, duke of Burgundy.

It is recorded that in the early sixteenth century, King Francois I of France had over 200 tapestries in Paris, many of which were kept in storage. Tapestries were investments of economic importance. Their significance is indicated by their use as gifts for diplomatic and political purposes.

A tapestry of the *Annunciation*, made of wool warp, woven with wool and a few metallic wefts, because it was probably woven in the southern Netherlands, presumably in Arras, is referred to as Franco-Flemish work (The Metropolitan Museum of Art, New York). Many tapestries were made in the fifteenth century; this one dates c. 1410–1430 when Arras was the most important center of tapestry weaving. At the top of the tapestry, two angels hold a coat-of-arms, presumably those of the patron. It has been suggested that because the tapestry was found in the treasury of the cathedral of Gerona, Spain, the coat-of-arms is that of the Spanish Villanova and Escales families. But identification of the original owner is hampered by the fact that the coat-of-arms on a tapestry was sometimes rewoven for a new owner.

Although the Annunciation was an especially popular subject in medieval art, the composition of this tapestry is notably similar to that seen in a painting by Melchoir Broederlam executed between 1390 and 1399 (Museum of Fine Arts, Dijon). Broederlam is known to have produced tapestry designs. Mary is shown interrupted at her reading by the arrival of the Archangel Gabriel. In scenes of the Annunciation, Mary is often depicted as literate at a time when most people were not. The open book refers to wisdom; if the book is closed, it refers to Mary's chastity. She turns and gestures to an equally animated Gabriel. This illustrates Luke 1:28-31, "And the angel came in unto her, and said, Hail, thou art highly favored, the Lord is with thee: blessed art thou among women . . . thou shalt conceive in thy womb, and bring forth a son, and shalt call his name Jesus." Gabriel's banner says, "Ave gracia plena" ("hail full of grace"). God, in the upper left, sends a tiny figure of Jesus holding a cross toward Mary, as the Holy Spirit in the form of a dove leads the way.

The complex setting includes what has been called an "interior by implication," due to the removal of one wall. Some sense of space is

created by turning the building on an oblique angle and by the checker-board floor rendered in perspective, yet the overall effect is flat. This building is set in a fantastic garden in which the plants appear to be stacked one on top of another. The jagged foliage is typical of Arras. The plants were selected for their symbolism: Mary was described as the rose without thorns; the Madonna Lily is a symbol of Mary's virginity, as is an enclosed garden (Song of Solomon 2:1-2, 4:12).

The Metropolitan Museum of Art also possesses three large fragments of the *Rose Tapestries* (see Color plate 23), which are probably remnants of an entire series of tapestries made to cover the walls of a room, referred to in medieval French inventories as *chambres* ("rooms"). The *Rose Tapestries* are Franco-Flemish work, made c. 1450–1455 in Arras or Tournai, probably for King Charles VII of France—Charles the Victorious (r. 1422–1461). These tapestries have 12 to 15 ribs (warps) per inch, and are made of wool, silk, and metallic threads. In these especially rich tapestries, metallic threads are woven in the clothing, jewelry, and even the leaves and flowers. Importance was attached to the presence, or absence, of gold in tapestries; inventories mention *tapis à or* and *sans or* ("with gold" and "without gold"). Imagine the sumptuousness of the effect before the metallic threads tarnished!

The background consists of rosebushes and stripes. It was customary to give roses in the French parliament as a sign of homage; an elegant dinner was held annually at which roses and other flowers were given to the guests. Furthermore, the rosebush was one of the emblems of Charles VII, and the red, white, and green stripes that form the background were his colors. The composition of each of the *Rose Tapestries* is that of an overall pattern with the several figures evenly dispersed and seemingly floating against the essentially two-dimensional background. This is curiously contrary to contemporary painting in which efforts were made to create illusions of three-dimensions on two-dimensional surfaces. Each figure is shown in isolation; they do not interact with one another.

It has been suggested that the lady in the *Rose Tapestries* is Agnès Sorel, the king's mistress, based on comparison to Jean Fouquet's striking portrait of Agnès Sorel shown in the guise of the nursing Virgin Mary, part of a diptych made for Étienne Chevalier, the King's Minister of the Treasury. Agnès Sorel was called *la dame de beauté* and, indeed, she was "the lady of beauty," but this title was also a pun, as the Château Beauté had been given to Agnès by Charles VII.

In the choir of the church of Notre-Dame in Beaune hangs a splendid set of six tapestries that tells the story of the Life of Mary.

Woven of wool and silk, these tapestries remain very well preserved, the rich colors still vivid. The charming scenes, executed after the cartoons of the Burgundian painter Pierre Spicre (active 1470–1478), were ordered in 1474 for Cardinal Jean II Rolin (whose depiction, accompanied by his dog, is included) and given to the church in 1500 by the canon Hugues le Coq.

The scenes of the *Annunciation* and the *Nativity* in this series appear to take place on little architectural stages, glimpsed through an arch, drawn in confused and inconsistent perspective. Realism is not the goal; instead, the clarity of the narrative and the appeal of its engaging presentation are of greater importance. In the *Nativity*, the shepherds in the upper right, identified by their sheep, are told of the birth of Jesus—in fact, they receive the news in writing. The ox and ass are standard inclusions in depictions of this subject. In the *Adoration of the Magi* the three magi come to Mary, Jesus, and Joseph, bringing gifts of gold, frankincense, and myrrh. One magus points up to the star they have followed to find the infant Jesus. Another takes off his crown and kneels before Jesus. In the *Flight into Egypt*, Joseph, having been warned in a dream that Herod plans to murder the innocent children, takes his family to Egypt for their safety. Mary rides the donkey sidesaddle, as was customary for a lady in the fifteenth century. The donkey grins, in spite of having only three legs. And in the background, the idols fall. The *Dormition* depicts Mary, who was free of original sin, going to sleep rather than dying at the end of her life, the scene therefore referred to as the “dormition.” The apostles gather around. The *Coronation of Mary* is the last tapestry in this series. Mary is crowned by an angel, before the Father, the Son, and the Holy Ghost.

Two celebrated and related sets of tapestries, both having subjects connected with the mythical unicorn, were executed in a popular late medieval style of tapestry design known as *mille-fleurs*, meaning “thousand flowers.” The famous *Lady and the Unicorn* tapestries at the Musée National du Moyen Age, Paris, are executed with pink backgrounds. Equally lauded are the *Hunt of the Unicorn* tapestries at The Cloisters, New York, with dark blue-green backgrounds. Documents mention mille-fleurs tapestries made with yellow and white backgrounds, but such tapestries have not survived. Mille-fleurs tapestries offer a curious dichotomy, for although the plants are so meticulously observed and recorded as to be botanically identifiable, they are used to create an unreal realm, an impossible environment in which a variety of plants from different geographic areas and climates bloom simultaneously. The weavers have accomplished what Mother Nature cannot.

The *Lady and the Unicorn* tapestries, made of wool and silk with metallic threads, are dated 1480–1490, were probably made in Brussels, and are considered Franco-Flemish work. They are famous for their quality, charm, and richness, largely due to the color harmonies, as well as for the many kinds of flowering branches and the countless details within a limited range of motifs. Each of the six tapestries depicts a woman on an island, usually accompanied by a girl who assists her, although they change their activity and costume on each tapestry. Many animals are included; in particular, the lion and the unicorn are present on each tapestry, positioned left and right, respectively. The coat-of-arms with the three crescents seen repeatedly on the banners and flags is that of the Le Viste family of lawyers from Lyons who moved to Paris.

The subject of five of the six tapestries is the five senses, a subject found in other works of this era. In the *Sense of Sight* (Photo 9.2), vision is represented by the lady holding a mirror in which the unicorn (not the lady!) looks at his reflection. The unicorn seems rather pleased by what he sees, although the lady appears disinterested. In the *Sense of Hearing*, sound is represented by a portable organ. The girl operates the bellows. The four trees are orange, pine, oak, and holly. In the *Sense of Taste* the lady takes food from a bowl, and the parakeet and monkey also eat. The same four trees are shown. To represent the *Sense of Smell*, the woman weaves a garland of carnations as the monkey sniffs a flower. In the *Sense of Touch*, the lady grasps the unicorn's horn. An enchanted world is created in these tapestries. Their theme and meaning is quite clear.

But the sixth tapestry has long presented a problem of interpretation. In only this tapestry, the lady stands before a tent, on which it says “*À MON SEUL DESIR*” (“To my only desire” or “To the only one I love”). Various and conflicting explanations of what is going on here have been offered. Is the lady putting jewels into the box or taking them out? The meaning of the tapestry depends on the direction of her movement. The subject of this tapestry may have to do with the ancient idea of “free choice”—we want to behave as we know we should, but our senses, our passions, do not permit it. A set of six tapestries is known that is comprised of five scenes of the senses and one of “free choice” in which a woman renounces her jewels—the sensuous things. But if the lady in the Paris tapestry is removing something from the box—that it is her marriage belt or her veil of virginity has been suggested—this interpretation implies that the tapestries were made as a wedding gift. The major recurring animals seem to support this theory. The dog is a standard symbol



Photo 9.2 *Sense of Sight (La Vue)*, from the set of tapestries known as the *Lady and the Unicorn*, Franco-Flemish, probably made in Brussels, 1480–1490, wool and silk with metallic threads. Musée National du Moyen Age, Thermes de Cluny, Paris. Erich Lessing/Art Resource, NY.

of fidelity and domesticity. The lion, in the context of a marriage tapestry, refers to faithfulness in love and marriage. And the unicorn represents virginity and courtly love. It has also been suggested that the sixth tapestry might have originally belonged to a separate series.

The *Hunt of the Unicorn* tapestries at The Cloisters, New York, mentioned above, are also Franco-Flemish work, perhaps woven in the same atelier in Brussels, although a bit later, around 1500. Brussels tapestries were especially splendid at this time and the technical execution of The Cloisters tapestries is superb. There are 16 to 18 undyed wool warp threads per inch, which is very fine work. The weft threads are wool and silk, colored with plant dyes, and metallic threads.

These tapestries tell the story of the hunt, capture, and death of a unicorn. The mythical unicorn was believed to exist in the Middle Ages. The quest for this coveted creature was not due to a desire to feast on

its flesh, nor to wear its fur for fashion. The only portion of the animal that was wanted was his horn. The unicorn's uni-horn, the single horn in the middle of his forehead and the animal's distinguishing feature, was believed to bring good luck. In particular, it was thought capable of preventing death by poison, a not unknown after-dinner event in the Middle Ages. If one feared one's digestion might be in danger, the solution was to drink from a goblet made of unicorn horn or to consume unicorn horn powder. Narwal tusks, which have the spiraling pointed shaped attributed to unicorn horns and were claimed to be such horns, were brought from the north by sailors and sold as such for more than the value of their weight in gold.

The first and last tapestries in the series are in the mille-fleurs style. The backgrounds contain over one hundred species in all, of which about 85 percent are identifiable. All are in full bloom. Because the first and last tapestries are the only two in the mille-fleurs style, it has been suggested that they may not have been part of the original series, or alternatively they are the work of a different designer, or perhaps they were intended for a different location, for example, a bed cover and canopy.

The story of the unicorn hunt is made to mirror that of the stag hunt which, in the absence of warfare, was considered the proper pastime for medieval nobles. Thus, in the first tapestry, the *Start of the Hunt*, the unicorn is tracked with the aid of greyhounds who hunt by sight and running hounds who hunt by scent, held on double leashes. On the left, the three lords with their assistants set out on this questionable quest. On the upper right, a man has climbed the tree to get a better view and has spotted the unicorn seen in the next tapestry.

This is the scene of the *Unicorn at the Fountain* (Color plate 22), in which the unicorn purifies the water that has been poisoned by a serpent, a symbol of the devil. According to religious interpretation, the unicorn dipping his horn into the water is Jesus ridding the water of the poison. In some written descriptions of this scene, the unicorn forms the sign of the cross with his horn to remove the poison or render it harmless, making the iconographic connotation clear. The number of hunters has now increased to twelve; if the unicorn represents Jesus, then they are the twelve apostles and the hunter on the far left who points out the location of the unicorn is Judas. According to secular interpretation, however, the unicorn represents the bridegroom in a marriage. Among the many animals waiting to drink the water, those that appear in pairs support the marriage tapestry theory, for the lioness and

lion represent fidelity in love. Rabbits have long been known for their fecundity; in an era when the infant mortality rate was very high, the birth of children to carry on the family name and fortune was a major reason for marriage among nobility. The pair of goldfinches on the fountain carry the same connotation for the ancient Pliny said that although they are tiny, they can bring forth a dozen little ones. The other pair of birds on the opposite side of the fountain are pheasants and are a warning against something undesirable in a marriage—the pheasant is said to be jealous of even his own reflection, which the male bird sees in the water. To portray a reflection in water is difficult to do in paint, but to do so in a tapestry is an admirable accomplishment. If the unicorn represents a bridegroom, whose marriage warranted these impressive tapestries? Unfortunately, and in spite of significant research, who commissioned the tapestries, or why, remains unsure. They may have been made for Anne of Brittany to celebrate her marriage to Louis XII in 1499. Anne of Brittany's monogram—the A and E with entwined ropes—appears often, although the knot is tied in various ways. (The FR at the top of the third tapestry was added later.)

In the third tapestry, the *Unicorn Crosses the Stream*, the chase is on. This depiction reflects stories of the stag hunt in which the clever stag runs into the water in an effort to hide his tracks, wash off his scent, and cool himself from running. But this does not work for the unicorn because, as he emerges, the hunters attack. He responds by sticking his tongue out at them.

In the next tapestry, the *Unicorn Defends Himself*, the unicorn uses a far more effective technique. One of the oldest written descriptions of the unicorn says this animal is wild and fierce and will defend himself with thrusts of his horn and kicks of his hooves, as shown here. But a unicorn cannot be caught by the customary methods of hunting. Instead, one must resort to deceit and deception. Specifically, the complicity of a virgin woman is required. She must sit in the woods, where the unicorn lives. The unicorn will come to her, attracted by her purity and her scent—a fatal attraction, as evidenced in the next tapestry.

Unfortunately, only two fragments of the next tapestry remain. (These tapestries were badly mistreated over the centuries, used to wrap potatoes at one time and made into a curtain lining at another.) The woman seen here is not the beautiful young maiden; her limited charms are such that she would be unlikely to lure or entrance anything or anyone, four-footed and furry or two-footed and hairy. Instead, she is the accomplice. Damage has left the seated deceitful virgin with only her fingertips.

Depending on the version of the story, the unicorn then puts his head in her lap and falls asleep or into a trance. Because the unicorn becomes vulnerable when he goes to a virgin lady, he is associated with Jesus's incarnation, purity in general, and feminine chastity in particular. The enclosed garden in which the scene takes place was noted to be a medieval symbol of virginity.

In the next tapestry, the *Unicorn is Killed*, his body is transported to the castle. This is the only tapestry in the series that includes two scenes. In the upper left, the unicorn is a helpless victim, surrounded, speared, and bitten. In the center of the scene, a man grasps the unicorn's horn and points to the lord and lady, as if to indicate that the horn is intended for them. The lady fingers her rosary at the arrival of the dead unicorn, reinforcing the religious interpretation of the unicorn as Jesus. Perhaps this couple is the newly wedded Anne of Brittany and Louis XII. The tapestry designers and weavers paid minute attention to detail, including a variety of expressions, physical types, and costumes on the many people who have come to see the arrival of the unicorn. Nature is not neglected for a range of plants, animals, and birds are portrayed. But the intent is not to create an effect of reality. Therefore, two events are shown simultaneously, although they are supposed to have occurred sequentially. The pictorial space seems to go up, rather than back, into depth. And while the people behind the grid in the tower window may have a tight squeeze to extricate themselves, the size of those atop the tower suggests that they must resign themselves to remaining there forever.

At this point in the story, the unicorn has been sought, tracked, attacked, forced to defend himself, deceived, brutally murdered, and is now shown as a pathetic animal in death. The viewer's sympathy for the unicorn is likely to have been evoked. Those who like a happy ending will find it in the last tapestry, the *Unicorn Alive*. According to secular interpretation, this is the bridegroom who has endured many difficulties to win his lady's love and now wears the *chaîne d'amour* ("chain of love") while surrounded by her love in the form of a fence. Although the modern viewer may question the implication of the unicorn chained and penned, the medieval interpretation was that he has been domesticated and tamed by her favor. According to religious interpretation, the unicorn now represents the resurrected Jesus. The red on the unicorn's fur does not indicate that he is bleeding; rather juice drips from the fruit of the pomegranate tree to which he is tethered. The fruit was imported from the East and is accurately rendered, but the tree did not come with it and is the weaver's invention. Like the unicorn, the pomegranate was

interpreted according to both secular and religious symbolism. According to the former, the crown-like finial represents royalty and the many seeds fertility. According to the latter, the many seeds represent the unity of the Church and the hope for the resurrection.

In conclusion, tapestries, the most sumptuous of medieval textile wall hangings, were woven with a great many representations of royalty and nobility wearing splendid garments, as well as of people from lower classes who were less elegantly attired. The next chapter looks at actual garments worn during the Middle Ages.

Secular Clothing: Fit for a King and Queen

Medieval attire may be divided into three categories: secular clothing, ecclesiastical vestments, and defensive armor. They are examined in this sequence in the next three chapters of this book.

In the earlier centuries of the Middle Ages, the human body, especially that of the female, was obscured by garments made to hang rather than to cling, so as to shroud any sin-inducing enticements. As ideas of human beauty changed, costume gradually came to conform to the body's contours. Eventually, the body was treated almost as a sculptural medium, artificially manipulated by the tailor and milliner into shapes unknown to nature. During the later Middle Ages, clothing was far more than a means of maintaining modesty or of protection from the elements. Personal attire, especially in France and the Low Countries, developed into an extraordinarily opulent art form, splendid and sumptuous, visually signifying one's social status.

Materials and Methods of Secular Clothing

Medieval clothing was constructed from a variety of materials. Boccaccio's *Concerning Famous Women*, written in the early fifteenth century, includes illustrations of the story of Pamphile, who first spun cocoons into silk and of the story of Gaia, wife of King Tarquinius, shown at her loom as three other women comb, card, and spin wool. Fifteenth-century Italians, like their northern European contemporaries, fully appreciated

rich fabrics. Textiles and raw materials for textiles were widely manufactured and were traded throughout western Europe.

During the Middle Ages, silk maintained its status as the richest and most luxurious of textile fibers. Italy produced a range of luxury textiles, specializing in silk which might be patterned or solid-colored, woven as heavy samite, taffeta, satin, or as thin crepe and filmy chiffon. Silk velvet was popular and might be worked as cut velvet. Brocaded silk, including gold brocade, was especially sumptuous. Silk manufacturing prospered in Tuscany until early-fourteenth-century political problems led to the migration of workers and merchants further north in Italy. But these skilled artisans were to aid in creating that region's flourishing fifteenth-century textile industry. Certain cities developed into textile centers especially in northern Italy where Genoa, Venice, and Lucca specialized in silk. Venice continued to be the major textile port in the fifteenth century.

Silk was not manufactured in northern Europe simply because the necessary silkworms did not fare well in the climate. However, wealthy northern Europeans did not lack for silk as it and other rich fabrics were imported from Italy and Asia.

England produced the best wool, most of which was exported to Flanders to be loomed, although wool was also sent to France—in particular to Champagne. Burgundy manufactured wool fabrics of a quality almost as high as those of England. The wool industry in Spain may have been bolstered in the fifteenth century when Enrique III of Castile married Catherine of Lancaster whose dowry is said to have included a flock of sheep.

Flanders achieved a high point in the production of textiles during the fifteenth century. Wool was the basic fabric for outer garments, usually in solid colors, but also decoratively embroidered. Additionally, Flanders had an industry manufacturing linen fabrics (made from the flax plant) which were exported to the rest of Europe. The weight of the fabric varied according to use: sheer lawn and fine batiste were made into wimples and veils, whereas sturdy canvas was used for lower class garments. (Cotton fabric was used to make undergarments.)

Fur was especially popular in the late Middle Ages, for warmth and/or decoration. Fur was used as lining or edging on a man's or a woman's garments, but not as a coat constructed with the fur on the outside, as is worn today. Like so many other things during the Middle Ages, fur was a visual indicator of social status and was popular, therefore, even in the warm South. Specific social positions were associated with specific types of fur. Thus kings, princes, and members of the court wore

ermine, which is the thick, soft, white winter fur of the marten, similar to a weasel. Lords and ladies of such elevated status also wore vair, which is the fur of the northern squirrel worked with the gray back fur and the white belly fur arranged in a checkerboard pattern. Members of the lower nobility and middle class wore beaver, otter, rabbit, fox, and squirrel. The artist Jan van Eyck painted a portrait of his wife, *Margareta van Eyck* (Groeningemuseum, Bruges), in 1439, shown wearing a red wool garment lined and collared with squirrel fur. Common people wore wolf, goat, lamb, and sheep skins. Even the poor did not go without the warmth of fur in the Middle Ages when the forests were still full of fur-bearing animals.

Unfortunately, very few secular garments survive from the Middle Ages. (The situation is different for medieval ecclesiastical vestments and armor.) Fortunately, medieval sculptors, painters, manuscript illuminators, and tapestry designers routinely garbed the figures they created, including historical characters from earlier eras, in the costumes of the artists' own time, thereby providing what is assumed to be an accurate record of medieval secular costume.

Masterpieces of Secular Clothing

During much of the earlier medieval period and into the twelfth century, attire was essentially the same for men and women. One's social status, however, was visibly distinguished by garment length, kind of fabric, and type and quantity of ornament. In twelfth-century France, and elsewhere in western Europe, the vogue among the upper social strata favored long gowns with the fabric starched and formed into a plethora of perfectly pressed pleats. The *bliand* hung from the shoulders, had bell-sleeves, and was cut without a waist seam. Twelfth-century depictions of Jesus's mother Mary routinely show her wearing the bliand.

Mid-thirteenth-century French attire for women is recorded by an almost life-size sandstone and polychromy statue of *Mary*, from Strasbourg Cathedral (Photo 10.1), and for men by a large, originally polychromed, limestone statue of *Clotis* (Photo 10.2), who was the first Christian king of France. The thirteenth century appears to have been a quiet interlude of comfortable clothing, softer and simpler in style than the pleats of the preceding century and the exaggerations of the following century. The bell-sleeved bliand of the twelfth century was superseded by the tight-sleeved *cote*. For warmth, men and women wore a cloak or cape, fastened across the chest with a brooch or cord.



Photo 10.1 *Mary*, from Strasbourg Cathedral, French, mid-thirteenth century, sandstone and polychromy, h. 58 1/2 in. (148.6 cm.). The Metropolitan Museum of Art, The Cloisters Collection, New York, 1947 (47.101.11). Image © The Metropolitan Museum of Art.

The extent to which one was permitted to display their personal opulence was regulated by sumptuary laws that were enacted by the nobility in an effort to maintain an obvious and immediately discernable visual distinction between social classes. People of high social status were enabled—if not encouraged—to visually flaunt their position by laws that attempted to control the amount of fabric one was permitted to own, the width of the trimmings on one's garments, and much more. Certain sumptuary laws controlled very specific segments of society. For example, England passed a law in 1355 governing the garb of prostitutes that was intended to make them easily distinguishable from other women: fur was prohibited, only striped hoods were allowed, and their costume had to be



Photo 10.2 *Clovis*, from the monastery church of Moutiers-Saint-Jean in Burgundy, French, mid-thirteenth century, limestone with traces of polychromy. The Metropolitan Museum of Art, The Cloisters Collection, New York, 1940 (40.51.1). Image © The Metropolitan Museum of Art.

worn inside out! (The author wonders if this was done to censure their profession or to advertise it by helping potential clients to recognize prostitutes more readily.)

Male and female attire comes to be differentiated, especially with the arrival of the short costume for men in the mid-fourteenth century. Thereafter, the sexes were clearly distinguished by dress; male costumes were the more revealing below the waist and female costumes more so above the waist.

Fourteenth-century French attire was dominated by a distinctly Gothic style. Women are depicted as svelte and sophisticated. A lady's long cote was fitted to the upper body and made to flare below the waist by the

insertion of triangular-shaped gores. A woman's cote that was snugly fitted at the bust was called a *sorquenie*. The popularity in medieval times of what is today called the "layered look" was based on practical necessity prior to the advent of comfortable heating. Additionally, because multiple garments were a sign of status, the outer garment was cut shorter than the undergarment, ensuring its visibility.

France was the leader in fashion in the fourteenth century. French dolls, wearing the latest styles, were sent as gifts to the queen of England. Elegant gowns were treated like spoils of war; thus a conquered French town was looted not only of its gold and silver, but also of its fancy garments. The best booty to bring back home was the gown of a fine French lady.

French Gothic fashion focuses on sophistication and refinement. Fundamental change occurs with the appearance of tightly-fitted garments constructed of small sections of fabric. Rows of buttons and buttonholes appear, an innovation that becomes popular during the fourteenth century. The cut of clothing becomes extreme and the wearer's physical form may be flagrantly flaunted. The *cote gamboisée* or *gambeson*, which is a padded protective cote, and the *boqueton*, which is a quilted waistcoat, both originally worn under armor, became part of civilian attire and proceeded to evolve into the *pourpoint* of thick and/or rich fabric, lined and quilted. The term *pourpoint*, although used loosely, correctly refers to the tightly-fitted fashion in which the wearer's hose were attached directly to the upper-body garment by cords sewn into the lining or, more precisely, by *points*—laces with metal tips that were threaded through eyelets. The *pourpoint* had many different forms and cuts.

A rare survival of medieval secular attire is the *Pourpoint of Charles of Blois*, worn before 1364, now in the Musée Historiques des Tissus, Lyon. It was constructed in France, but the fabric of silk with threads of gold was woven in Sicily in the mid-fourteenth century. This garment has a row of buttons down the front and many more on the sleeves. A close fit was achieved by making this *pourpoint* from thirty-two separate small pieces of fabric. A *pourpoint* was intended to shape the body, to sculpt it, manufacturing men with bulging chests and tiny waists.

The manuscript illuminations of the poetic works of Guillaume de Machaut, painted c. 1370 by the so-called Boquetaux Master, include depictions of *Nature Introducing her Children* and *Love Presenting her Children* (to the poet). The manuscript shows that men's upper body garments became very short and were cut only slightly past the waist. Love's child, *Doux-penser* ("Sweet-thought") wears a *jack*, also called a *gippon*, which was

a variation on the pourpoint. A jack is cut short, fitted close to the body, and could be fur-lined or thickly padded and quilted with cotton wadding. The *jacket* (*jaquette*) was the jack less fitted, worn by peasants who were therefore called Jacques. For the most part, the peasantry continued to wear the short tunic—the *colobia* or *coteron*, but these were not as short as the garments worn by the nobility, and especially by the young nobility.

In the second half of the fourteenth century, clothing was made more blatantly seductive—not merely prettier in a decorative sense, but intentionally more alluring. Women used hairpieces more freely. Cosmetic make-up was popular, the skin intentionally made very white as a pale frail appearance was carefully cultivated. Ladies desired a tiny waistline, emphasized by their costumes, and achieved by tight binding and the vogue for dieting necessary to maintain its measurement. Necklines were cut as low as they could go while still being called necklines.

King Charles V Valois (r. 1364–1380) and his queen, Jeanne de Bourbon (Photo 10.3), are depicted in India ink grisaille on a long silk panel known as the *Parement of Narbonne*, made c. 1375 in the royal atelier by the so-called Maitre du Parement. The royal couple is shown kneeling in prayer on this altar frontal that was intended to be used at Lent in the king's chapel. The queen, her hair caught up by crossing ribbons, displays contemporary French fashion. She wears a garment known as a *sideless gown*, a sort of open *surcote* (also spelled *surcoat*) or sleeve-less over-tunic for women that revealed the tight-fitting undergarment worn beneath. The clergy did not approve of the sideless gown and attempted to control its use by denouncing the style from the pulpit. Because the openings on the sides contained views of the female form, they were referred to as the “windows of hell.” Jeanne de Bourbon's long hemline was a sign of her royal status—everyday practicalities were of little concern to the queen of France. The sleeves of the cote worn underneath were made so tight that they had to be unstitched to be taken off, and re-stitched at the wrist when put back on. This meant that dressing and disrobing took some time and trouble. When a lady went out, depending on the occasion, she might carry scissors in her purse.

The *Parement of Narbonne* also provides an accurate portrait of Charles V. The same face is seen in a manuscript illumination of 1371 from the *Bible Historiale* of Jean de Vaudetar, advisor to Charles V, who is portrayed in the process of presenting this Bible to the king. The portrait was painted by Hennequin de Bruges, Charles V's court painter



Photo 10.3 (Part A) Detail of *Charles V* (1338–1380), *Parement of Narbonne*, French, c. 1375, grisaille on silk. Musée du Louvre, Paris. Lauros/Giraudon/The Bridgeman Art Library International (detail of 83469).

(mentioned in the previous chapter for having created the cartoons for the *Angers Apocalypse* tapestries). It may be assumed that the king's facial features and his clothing were recorded with the same level of accuracy. Known to have been of fragile health and often cold, the king is shown wearing the man's version of the *cote*, covered by an ample *surcote* rather than the recently-introduced short garment for men, the *pourpoint*. Charles V encouraged literature and the arts, thereby fostering France's cultural accomplishments. Known as Charles le Sage ("the Wise"), he was an adept leader, attentive to his obligations, moderate in his actions. He lived a regulated balanced life described as being without excess or extravagance. But such things were relative for the king of France, for it was also recorded that his sleeves flared from the elbow to such an extent "that they trailed on the ground."

A folio from John Foxton's *Liber cosmographiae*, illuminated before 1408, depicts a personification of the sun that demonstrates why the style of very short garments for men was viewed as scandalous. The legs were covered only by tight-fitting, intentionally revealing hose that were cut for the individual wearer and stitched to conform to the shape of his legs. The degree of immodesty of this mode was initially still greater because



Photo 10.3 (Part B) Detail of *Jeanne de Bourbon* (1338–1377), *Parement of Narbonne*, French, c. 1375, grisaille on silk. Musée du Louvre, Paris. Lauros/Giraudon/The Bridgeman Art Library International (detail of 83469).

the two legs were originally separate. In the later fourteenth century the two legs were sewn together with a triangular insert added over the front opening.

In the fifteenth-century, fashion for men and women further abandoned practicality in favor of peculiarity and pomposity. The human body was molded into unnatural shapes by clothing—minimized by stiffening and boning, maximized by padding. Feet were pointed by *poulaines*. Women's hairlines were artificially heightened and their heads made to appear horned or pointed by *bennins*. The richness of costume was enhanced by the great number of styles. The vogue for visual variety was augmented by the marriages arranged between the most important and wealthiest families. For example, the marriage of Jean sans Peur (John the Fearless), Duke of Burgundy, to Margaret of Bavaria took place in 1404; Margaret's dowry and dresses surely did not go unnoticed in her new surroundings.

The ultimate extravagances in personal attire during the fifteenth century in northern Europe—an era and area replete with excesses—were found in the court of Burgundy where the tailors utilized the most

extreme aspects of foreign styles. The dukes of Burgundy spent freely on luxury items, with especially large sums allotted to costume. Their fabrics were the richest, their use of embroidery the most abundant, the cut of their clothing the most extreme. Thoroughly familiar with the flagrant flaunting of fashion, members of the court of Burgundy used costume to display their wealth. The account books of the dukes of Burgundy make clear why their costumes were so costly: they consisted not only of fabric and fur, but also of feathers, pearls, precious and semi-precious stones, and gold.

Posterity has benefitted from the acquisitive activities of Jean, Duke of Berry, a compulsive art collector and generous patron who was one of the brothers of Charles V. Jean de Berry was mentioned above in connection with the *Nine Heroes Tapestries* and the *Merode Cup*. The Limbourg brothers (Pol, Herman, and Jean) illuminated a manuscript for Jean de Berry known as *Les très riches heures du duc de Berry*, 1413–1416, now in the Musée Condé of the Château of Chantilly (discussed in Chapter 1, Color plate 4). Each of the twelve months is represented by a full-page illumination that provides information on early fifteenth-century attire.

In *April*, the lady's *surcote*, a long loose gown with a full skirt, often slit, and various types of sleeves, by now long popular, trails on the ground. Beneath this is worn the *cote*, a gown that is floor-length or slightly shorter, with the sleeves cut in one piece with the garment. Outer garments are lifted to reveal the even richer undergarments. As recorded in this manuscript, brilliantly dyed textiles might be embroidered or brocaded, or lined or edged with fur.

May Day festivities are depicted in the illumination of *May*. The court celebrates with garlands of leaves on their heads. Luxury is emphasized by splendid costumes of brightly-colored and patterned drapery, by soft and fluid fabrics falling in flowing loops and curves. In an era when artful artificiality was appreciated, beauty was regarded as an ideal, consciously sought—very different from the earlier medieval conception of beauty as leading to sin and the human body as something to be concealed. The ideal physical type of the era was long and slim, with delicate extremities. The female silhouette was further elongated by the addition of a long train pulled behind, sweeping the floor. The train was a sign of the wearer's importance and position, a visual indicator of rank. Trains, therefore, became a subject for sumptuary laws and were denounced in church. The train, complained Cardinal Latino, was dirtied in the mud and, further, "dirtied" men's thoughts—it was regarded as a seductive element of attire.

The same cardinal also sought to require all females to wear veils but, to his dismay, he found the females looked even more alluring this way.

August is a depiction of the court on another elegant outing. Hawking, shown here, was a popular sport. The ladies ride sidesaddle, required both by custom and by costume. Evidently not only people but also horses were dressed for the hunt in sumptuous costumes, further embellished by jewelry. The ladies' fashion of the horned headdress seen here was not reserved only for the hunt and these will appear tame compared to their later extension. The edges of the sweeping blue sleeves are treated to a special flourish; the shaping of the edge of a garment into a repetitious toothed or scalloped pattern is referred to as *foliated*, or *dagged*, or *castellated*, because of the similarity to the shape of the crenellations so commonly seen along the rooflines of medieval castles. The technique was used on hemlines, necklines, sleeves, and hat brims.

A mid-fifteenth-century mural in La Manta Castello, Piedmont, Italy, of the *Nine Heroines* offers an extreme example of this edge finish. It was considered a luxury because it indicated the owner had sufficient wealth to cut, and thereby speed the deterioration of, the valuable fabric. Although this kind of edging has been described as "in the German style," it was popular in many areas.

Certainly not everyone lived and dressed so well. *June* in the Limbourg brothers' manuscript is a depiction of laborers in the fields. Men wear breeches, a chemise, a short tunic or cote held by a belt, and hose, which might be rolled down. Women's clothing continued to be longer than men's. One woman has tucked the overskirt of her *kirtle*, which is a simple tunic or cote, into her belt, presumably to keep it out of her way. The long-sleeved chemise clearly shows.

The importance of the textile industry, as well as of the merchant class, at this time, is made clear by the famous double portrait of *Giovanni Arnolfini and Giovanna Cenami* (Photo 10.4), painted by the Flemish master Jan van Eyck in 1434. The painting is a wedding document; the bride and groom are shown exchanging vows. Arnolfini was an advisor and moneylender to Duke Philip the Good of Burgundy. Originally from Lucca, Arnolfini worked in Bruges for many years as a silk merchant. Italians exported the products of their flourishing silk industry to northern Europe, where they opened textile businesses in Bruges, Antwerp, Paris, and other fashionable cities. Arnolfini wears a *huque* (also spelled *henke*), a sleeveless surcote, here of brownish velvet, fur-lined, open down the sides, falling to mid-calf. Beneath his huque, he wears a short black fitted jacket or pourpoint with gold embroidery on the cuffs.



Photo 10.4 Jan van Eyck (c. 1390–1441), *Giovanni Arnolfini and Giovanna Cenami*, Flemish, signed and dated 1434, egg tempera and oil on oak panel, 32 1/4 × 23 1/2 in. (83.8 × 57.2 cm.). National Gallery, London. NG 186. Erich Lessing/Art Resource, NY.

His huge black hat is shaped like a broad-rimmed bowl. On his feet, the fifteenth-century northern European gentleman wore pointed *poulaines*, protected by the *patens* (also spelled *pattens*) seen here, a kind of wooden clog held onto the foot by a broad strap. Cenami wears her surcote belted below the breasts and her train is displayed before her. Her enormous sleeves, hanging almost to the floor, are decorated with rows of elaborate cut work. Fur edges the arm slots, neckline, and hem. The

brilliant green color of the wool fabric may well have been selected for its symbolic connotations, because green is the color of the fertility hoped for in a marriage. Beneath the surcote, Cenami wears an ankle-length cote of blue, banded in gold at the wrists. Today's viewer, however, is likely to find the most notable aspect of Cenami's appearance to be her protruding abdomen. No urgency to the wedding is implied by this; rather, a popular fifteenth-century fashion was the illusion of an enlarged abdomen. This was achieved by the insertion of a bag of padding and the cut of the garment and undergarment to emphasize the abdomen. Personal posture also played a role in achieving this beautiful bulbousness, called the "pregnant stance" in Giovanna Cenami's time. The much-admired S-curve was associated with the pregnant Virgin Mary. To make this association clear, consider the *Virgin Saint* in another of the Limbourg brothers' manuscripts, *Les belles heures du Jean, duc de Berry*, illuminated 1408–1409 (The Cloisters, New York, folio 9). Further, when the queen was pregnant, young women imitated her contour.

Cenami has other unnatural protuberances—on her head are two horns or *truffeaux*, held in place by a gilded or beaded net of silk. This may be compared with the horned headdress depicted in the portrait of *Margareta van Eyck* painted by her husband Jan van Eyck in 1439 (Groeningemuseum, Bruges). Margareta van Eyck's forehead has been artificially broadened by plucking and her hair is held firmly in two substantial patterned horns. In this elaborate and complex style, clearly time-consuming in preparation and probably painful to the wearer, the hair was plaited and formed into horns by coiling it around a metal framework attached at the temples. The entire construction was then covered by a *huve* or kerchief of fine white linen with rows of *ruching* (tiny pleats) at the edge. The appearance of horned women was a development on the fashionable so-called "wide look at the temples." Initially the hair was frizzed at the temples or pads were inserted, which evolved into horns.

The Flemish artist Rogier van der Weyden painted his very large altarpiece of the *Last Judgment* between 1443 and 1451 (Hôtel Dieu, Beaune). When the polyptych is closed, the donor and donatrice are seen kneeling in prayer, the latter wearing the striking *beaupré* or butterfly headdress, a fashion of the Low Countries, Burgundy, and northern France, consisting of a veil of starched fine linen, held on brass wires, creating the effect of enormous translucent insect wings. A variant of the style is seen in Rogier van der Weyden's *Portrait of a Lady*, painted c. 1455 (National Gallery of Art, Washington, DC), in which the sitter wears a headdress of thin white linen, stiffened and held in place by visible pins.

Her hair has been pulled back tightly and woven into a high dome. A black velvet band provides a base for the construction. At the center of the forehead is a little loop. This fashion flourished for only a short time and can, therefore, like certain other aspects of costume, be used to determine the date of a work of art.

In the painting of *Saint Eligius (Eloi) and the Lovers*, made by the Flemish artist Petrus Christus in 1449 (Metropolitan Museum of Art, New York), the lady's houppe is of golden brocade with the collar and cuffs turned back to show the deep red lining; a contrasting fabric was frequently used for the lining and was intentionally shown. The tight bodice is front-laced, the opening filled in for modesty. On Saint Eligius's table, in front of the soon-to-be bride, is her bridal girdle (bride's belt); the lovers have come to Eligius for the purpose of purchasing a wedding ring. Petrus Christus has provided a glimpse of the interior of a mid-fifteenth-century Flemish jeweler's shop in which the types of jewelry favored at the time are displayed—brooches, rings, and necklaces—rather than earrings or bracelets. The man wears a jeweled brooch pinned to his hat and a heavy gold neck chain with a pendant. Saint Eligius (mentioned in Chapter 8) is the patron saint of metalworkers, goldsmiths, and blacksmiths. Although Eligius was active in the seventh century, Petrus Christus has dressed him as a mid-fifteenth-century Flemish craftsman with cap.

An era of extreme luxury was ushered in during the reign of King Charles VII (r. 1422–1461). Jean Fouquet's portrait of Charles VII, painted c. 1455 (Musée du Louvre, Paris), records the monarch's poor health, including the bags under his eyes. Nevertheless, he appears impressively grand in his red *houppelande*, his chest enlarged by padded organ pipe folds and his shoulders broadened by pleats and padding. The sleeves are cut sufficiently long to protect his hands. The fur lining adds both warmth and prestige.

But the new emphasis on attire did not stem from sickly Charles VII, nor from his queen, Marie d'Anjou; rather, it was due to the king's mistress, Agnès Sorel (mentioned in the previous chapter), almost twenty years his junior. Jean Fouquet's portrait of *Agnes Sorel*, painted in 1450 or shortly before (Museum of Fine Arts, Antwerp), shows her, like Rogier van der Weyden's lady, wearing a loop of black velvet across her forehead. Agnes Sorel set the fashion trend for the artificially elevated hairline, a sign of nobility and lofty intellect, available to anyone in possession of a razor and tweezers. The fashion had been fostered in France by the fact that Isabelle of Bavaria (d. 1435), queen to Charles VI, was bald and without eyebrows. Agnès Sorel and other ladies of her

era used hairpieces and wigs. Agnès Sorel's tastes led ultimately to the establishment of a major industry in France—the manufacture of wigs.

Agnès Sorel was the first royal mistress to be officially recognized as having such a position. Politically and culturally powerful, she encouraged a court of material extravagance. In Fouquet's extraordinary depiction, the notion of the nursing Virgin Mary provided the excuse for Agnès Sorel's revealing attire. The low neckline was a French style, but it could be filled in to suggest modesty. The *bodice* or *corset* of Agnès Sorel's gown is "princess" seamed (constructed with seams that run vertically over the breasts), tightly fitted and front-laced. (The corset laced up the back until 1350, and up the front thereafter.) The skirt is cut separately and gathered or pleated at the pinched waist. The sleeves are long and fitted. Her cloak is lined with ermine, the ultimate status fur. Agnès Sorel was beautiful; even Pope Pius II described her as possessing "the most beautiful face one could possibly see." But beauty did not produce longevity; she was to die in 1450 at the age of twenty-eight, perhaps poisoned by the son of Charles VII, the future Louis XI.

An excellent source of information on the clothing worn in the court of Charles VII are the set of tapestries known as the *Rose Tapestries*, one of which is illustrated in Color plate 23, woven in Arras or Tournai and mentioned in the previous chapter. The date of the tapestries is debated; perhaps it is to be placed near the mid-fifteenth century, probably c. 1450–1455, based on the female hairstyle with the dark lock or velvet ribbon on the plucked and shaved forehead. Costumes, both female and male, provide historians with excellent information on which to assign dates to a work of art. These courtiers wear elaborate luxurious costumes, displayed for the viewer to admire, including various types of enormous headdresses. The *Rose Tapestries* depict the butterfly hennin, mentioned previously, which consisted of one, two, or three horns under a veil. Brass wire was formed into a frame that supported the white fabric and also stabilized the headdress by hooking it around the ears. Also depicted in the tapestries is the very different *escoffin* headdress, although the term "escoffin" was not used until the sixteenth century. It is puffed and padded, and to it was attached a *fall* (a heavily jeweled kerchief). Color plate 23 shows the descriptively dubbed *heart-shaped* headdress that was divided centrally and attached to a *caul*, a sort of net that evolved into a metal cage decorated with embroidery, jewels, and pearls, one worn on each side of the head. The entire construction was held in place by hundreds of hairpins. These examples represent the peak of fantastic female headwear in terms of structural complexity.

Male courtiers in the *Rose Tapestries* wear the *bourrelet*, a hat made of a roll of fabric, sometimes formed over a wicker hoop. When donut- or turban-like in shape, it was called a *roundlet*, *roundel*, or *chaperon*. The characteristic *liripipe*, a long band of fabric attached to the hat, was worn hanging down the back, or draped on the shoulder, or wrapped around the head. One man has removed his *roundlet*, revealing his hair beneath to be covered and held tightly to the head by a fitted cap.

The basic garment for men and women of the upper social strata was the *houppelande*, a fashion that appeared in the middle of the preceding century. Women wore the *houppelande* with a long voluminous skirt, a broad belt just below the breasts, and the collar turned back on the shoulders to create the V neckline that was standard by the mid-fifteenth century in northern Europe. Although a band of fabric was inserted into the V neckline, which might be further filled by a fine *fichu*, the neckline still remained low and wide and therefore strongly criticized by the clergy. Sleeves were long and straight, with big cuffs turned up *à la française*. A chemise of fine linen or silk with long sleeves and low neckline was worn beneath the *houppelande*. Over the chemise went the rigid and tightly laced true corset.

Men wore the *houppelande* with the skirt cut to just above the knees, known as the *bastard houppelande*, also called the *haincelin*, named for Charles VI's fool, Haincelin Coq. The gentleman's collar, unlike the lady's, was worn standing. Also unlike the lady, his belt, which held the characteristic padded organ pipe folds in place, was narrow and worn at the natural waistline. The *houppelande* opened down the front and was fitted tightly to the body for both sexes; the loose cote and surcote were by now out of fashion. A peculiar and practical feature appears on men's garments known as *gard-corps* which had padded sleeves slit along the front so that one's arms could be inserted when protection from the cold or wet was needed, or readily taken out when not.

Late fifteenth-century male attire for cold weather is documented by a statue of a man from Burgundy, now in The Cloisters, New York. His coat, the ancestor of the coat we know today, was the creation of the peasant, introduced in the fifteenth century when the workman's smock, that had been pulled over the head for centuries, came to be split down the front, so it could be put on from the back, and was then closed by a row of buttons. The peasant's coat was cut straight, without a waistline. The collar and lining could be of fur, as on this Burgundian man's coat.

This kind of coat was not the norm for the nobility who were expected to dress to their station in life. Yet King Louis XI (r. 1461–1483), son of Charles VII and Marie d'Anjou, was known for his familiarity with the

lower classes and for not dressing his royal role to the extent that he passed unrecognized among his own subjects. To the dismay of his fellow nobles, he stipulated that his tomb effigy was to show him, not in the customary state robes, but attired in old clothes for the hunt.

A common accessory for both women and men of all classes was a belt from which was hung a drawstring pouch or purse. The importance and practicality of this accessory are due to the absence of pockets on medieval garments. Some belt purses were elaborately embellished with embroidery and other forms of ornament.

Flemish court fashion of the second half of the century is documented by an extraordinary pair of panels by Dieric Bouts, the *Justice of Emperor Otto III*, painted 1470–1475 (Royal Museums of Fine Arts, Brussels). The story begins on the left panel which depicts an empress who complains to Otto III that a count has tried to seduce her. Although innocent of the accusation, the count is beheaded and the head given to his widow. On the right panel, wishing to clear her husband's name, the countess is tried by fire; she holds a red-hot iron and is not burned. Consequently Otto III realizes he has beheaded an innocent man and promptly punishes the empress by having her burned at the stake, as portrayed in the background. This story, as told by the thirteenth-century chronicler Godfrey of Viterbo, recalls the biblical account of Joseph and Potiphar's wife.

In these paintings, the preference for slender proportions is augmented for ladies by extending their height with the pointed hats known as *hennins*. The rise, so to speak, of the hennin, or *cornet*, stressed height, supplanting the emphasis on width seen in mid-fifteenth-century headdresses. The true hennin form developed as a tall cone, pointed or truncated. A velvet cuff was fitted to the head and the hair almost completely covered. Although the origin of the word hennin is uncertain, the name surely was not intended as a compliment. The specific type of hennin one wore depended on one's social status; the higher the wearer's social position, the higher the hennin. With social climbing, the hennin grew to almost four feet. The hennin was preached against from the pulpit, but to no effect. The fashion gradually ran its course, becoming less popular by the end of the century. While the hennin and other elaborate headdresses were in vogue for upper-class women, those of the lower classes wore only a simple hood.

The hennin with its attached veil was compared to the church steeple with its hanging standard. Indeed, a comparison could be made between the shape of the hennin and the contemporary architectural predilection for a plethora of pointed towers, steeples, and spires. Similarly slender proportions were preferred for both anatomy and architecture.

As these paintings make evident, the opposite end of the body was emphasized for a gentleman, the length of his feet enhanced by the pointed shoes known as *poulaines* or *pigaches*. Shoes with long pointed toes, first seen in the preceding century, reached new lengths in the fifteenth century, especially during the third quarter of the century. The style was sometimes called the *crackow*, suggesting a Polish origin. But a more entertaining story claims they were invented by a count of Anjou to hide his ugly feet. The toes could be stiffened with whalebone. It has been said, without firm evidence, that the toes became so long they were curled up and tied to the knees. The length of the poulaine, like the height of the hennin, depended on the wearer's social status. For kings, princes, and dukes, the toes could be two-and-one-half times the length of one's feet; for the high aristocracy, twice the length of the feet; for the lower nobility, one-and-one half; gentlemen and wealthy bourgeoisie of the middle class were permitted to double the length of their feet; and common people could add half a foot to their feet. The wood shoes known as *patens* that protected the poulaines were correspondingly pointed in shape. Alternatively, hose might be soled, thereby eliminating the need for a separate shoe.

The Dieric Bouts painting also documents the vogue for extremely short costumes on men, the length of which, like much else in medieval life, was governed by law. Sumptuary laws, as was noted, generally stipulated what one was permitted to wear at each rank; normally the higher one's rank, the more one was permitted to own and to flaunt. But in the case of short garments for gentlemen, the rules were curiously inverted, stipulating what one was permitted not to wear! Less of a noble's body was required to be covered than of a peasant.

Elegant female costume from the late fifteenth century, approximately 1480 to 1490, is recorded in the *Lady and the Unicorn* tapestries, discussed in the preceding chapter, which are Franco-Flemish in style, probably made in Brussels. A lady appears on each of six tapestries, wearing different clothing each time. In the tapestry that represents the *Sense of Sight* (see Photo 9.2), the lady's gown is of yellow brocade, lined in red silk, the hem turned back above the knees to show the underskirt of pale bluish *moiré* (watered silk). Rich fabrics and colors were intentionally contrasted to one another. The elaborate headdress, twisted with pearls, forms a horn for the lady, perhaps in imitation of that of her companion. Pearls were very popular during the Middle Ages when, not diamonds, but pearls were a girl's best friend.

In the *Sense of Hearing*, the lady wears a surcote of brocaded golden silk, open down the front, with a train, enriched with gems. The blue

cote has notably wide sleeves. The lady is accompanied by a younger assistant—illustrating that unmarried young ladies and girls might wear their hair long, wavy, and flowing freely.

The *Sense of Taste* shows one gown to be more spectacular, more splendid, sumptuous, and sensuous than another. The dog sits on the lady's long train, the length of which, as noted above, came under the scrutiny of the law and the criticism of the Church.

In the *Sense of Smell*, beneath a blue robe that is tightly fitted to the torso and lined with crimson moiré, the lady wears an embroidered dress that is intentionally shown by lifting the overskirt to the waist. The folds of the fabrics suggest they are heavy and stiff. The lady's garment is edged with precious cabochons and pearls. Her hair is covered by a short veil of woven gold set with gems and pearls.

The lady wears yet another elegant gown in the *Sense of Touch*, this one edged with cabochons and lined with the coveted ermine. The overskirt is open on the sides to reveal the brocade underskirt, another sign of her elevated social status.

In the tapestry *To My Only Desire*, she wears a robe of crimson decorated with pearls and cabochons, the overskirt turned back to reveal the brocade underskirt, set with jewels. Now the sleeves are transparent.

As the *Lady and the Unicorn* tapestries provide information on women's costume, the *Hunt of the Unicorn* tapestries, also discussed in the previous chapter, perhaps made in the same Brussels atelier a decade or two later, provide information on men's costume. At the *Start of the Hunt*, the social status of the nobles on the left and of the servants on the right is clearly distinguished by costume. All wear the *doublet*, originally made of double material with padding inside. This garment is also called a *pourpoint* because, as previously mentioned, the hose were attached to it by means of *points* (tied with laces through holes). The sleeves could be of great variety and were sometimes detachable, making this the forerunner of the vest. The short skirt is the *peplum*.

An upper-class gentleman's legs were covered by tight-fitting hose in the late fifteenth century. The fashion for leggings with unmatched legs reflects the fact that men's hose started out as two separate legs. Perhaps this history explains why we say trousers and pants in English—both words seemingly plural, and even speak of a "pair" of pants, while referring to a single garment. The leggings were of woven wool or silk, cut on the bias to give some elasticity, and seamed up the back. Eventually knitted leggings offered more stretch and a better fit. The leggings were held up by a cord at the waist. A leather sole could be sewn in the

bottom, eliminating the need for shoes. In the second half of the fifteenth century, the two legs had been joined at the back, by a *gore* or *godet*, and by a triangular flap at the front, called a *braye*. At the end of the fifteenth century, the braye evolved into the *codpiece*, and in the early sixteenth century it was to be embellished and enlarged, earning the name *braguette*. (The fully developed codpiece was worn by King Henri II of France in the mid-sixteenth century.)

In the second tapestry, the *Unicorn at the Fountain*, *slashing* is used on the shoulders; this restrained example demonstrates the original use and location of slashing as a means of minimizing the stress on the fabric of the upper sleeve as the arm moves. Male and female costume reached unprecedented levels of display at the end of the fifteenth century with “slashing and puffing.” However, fully developed slashing, applied to many areas of a garment, is characteristic of the sixteenth century. A thinner and more valuable fabric was pulled through each slash to form the puffing.

In the scene, the *Unicorn Crosses the Stream*, the men wear soft leather boots. Blunt-toed shoes of the “duckbill” type became popular at the end of the fifteenth century, replacing the pointed poulaines.

Evidently the temperature dropped as this hunt continued, as depicted in the scene, the *Unicorn Defends Himself*, since the men have added extra garments for warmth. They wear the *gard-corp* with the sleeves slit in front so they may be easily put on or taken off.

In the next tapestry in the series, the *Unicorn is Killed and Brought to the Castle*, details of the garments worn by the lord and lady of the castle are documented (Photo 10.5). The lady’s gown is tightly fitted, lined, interlined, stiffened, and padded. The huge bell sleeves are stitched up the front to form a “bag” sleeve—one could literally have something “up one’s sleeve.” Beneath the bodice of such a garment was worn a corset, stiffened with whale bone, to minimize the waistline and raise the bustline. Beneath the skirt was worn a *farthingale* or *verdingale* to maintain its bell shape. The fashion for wide skirts supported on stiff frameworks has a curious genesis. In 1455, King Enrique (Henry) IV of Castile (r. 1454–1474), known as Henry the Impotent, married sixteen-year-old Juana (Joan) of Portugal. Due to her need to hide an enlarging abdomen unlikely to have resulted from the king’s attentions, Juana devised a style in which the skirt was held out from the body by a series of rigid hoops, which became a fashion in the court of Castile around 1470. The Spanish hoop skirt was replaced by the French form of the farthingale that resembled a big cloth donut and was worn under the skirt, just below the waist. The significant and far-reaching popularity of the fashion for wide



Photo 10.5 Detail of the *Unicorn is Killed and Brought to the Castle*, from the set of tapestries known as the *Hunt of the Unicorn*, Franco-Flemish, Brussels, c. 1500, wool and silk with metallic threads. The Metropolitan Museum of Art, The Cloisters Collection, New York. Gift of John D. Rockefeller, Jr. 1937 (37.80.5). Image © The Metropolitan Museum of Art.

skirts in the sixteenth century is demonstrated by portraits of Queen Elizabeth I of England.

Costume in Fifteenth-Century Italy

A problem is encountered when attempting to write about the history of late medieval secular attire. Although the Middle Ages are generally

considered to have come to a close in northern Europe around 1500, Italy had already entered the Early Renaissance around 1400. Unlike certain artistic media that were more prevalent in the north (for example, stained glass and tapestry) as opposed to those that focused in the south (murals and mosaics), the medieval interest in costume was shared throughout Europe. Therefore, a brief examination of elegant attire in fifteenth-century Italy is offered here. Dress was quite literally an art form on the Italian peninsula, for major artists, including Antonio Pisanello, the Pollaiuolo brothers, and Jacopo Bellini, designed clothing and textiles.

Antonio Pisanello's portrait of a *Princess of the House of Este*, possibly Ginevra d'Este, painted at some point between 1436 and 1449 (Musée du Louvre, Paris), records the popular practice of artificially heightening the forehead and the dome-shaped hairstyle created by wrapping the hair around and above the head, all held firmly in place with ribbons. Her high-belted houppelande, introduced from the north, has the usual padded organ pipe folds on the bodice, but in this virtuoso display of the tailor's art they appear also on the sleeves which were often treated as separate from the garment (as they might actually have been). Sleeves could be made of a contrasting fabric, indicative of the medieval love of variety in colors and textures. The shoulders and neckline of the houppelande are edged with decorative braid. The embroidered juniper branch, with purple berries, is a play on the sitter's name, Ginevra.

Fra Filippo Lippi's portrait of *Agnola di Bernardo Sapiti*, painted c. 1440 (Metropolitan Museum of Art, New York), documents Florentine fashion. On Agnola Sapiti's sleeve are the letters "LEAL" (TA), meaning "fidelity," formed in gold embroidery; letters and words were also embroidered on contemporary northern clothing. Lippi's sitter, like Pisanello's princess, is dressed in the fashionable French Parisian style, *alla parigina*. Agnola's attire includes the northern European headdress which is high, padded, hides the hair except at the temples, and is covered by a heavily embroidered hanging veil. Lippi's subject is one of a great many fifteenth-century Italian women shown to have blond hair. Yet their male contemporaries were recorded with dark hair. Given that blond hair is not a sex-linked characteristic, it may be assumed that, instead, nature was augmented by art and artifice. Women bleached and dyed their hair; evidently blonds have long been thought to have more fun. Behind the artificially enlarged forehead, Agnola Sapiti's long hair was folded, fluffed, puffed, and ornamented with pearls formed into strands and flowers. There were also men in fifteenth-century Italy who plucked their eyebrows and curled

their hair. Objections were raised against long hair on men which, a Venetian friar said in 1462, made men look "like women." Critics called male attire effeminate.

Piero della Francesca's frescoes of the *Story of the True Cross* in San Francesco, Arezzo, probably painted 1452–1457, record the fashion of the houppelande worn long and trailing in Italy to emphasize fluidity of line. In Italy the sleeves were tightly-fitted with slits, or the seams were left open, allowing the white *chemise* to show, as evidenced by Alesso Baldovinetti's painting of the *Madonna and Child*, c. 1460 (Musée du Louvre, Paris).

Andrea Mantegna's fresco of *Ludovico Gonzaga and his Wife Barbara of Brandenburg* painted 1465–1474, in the Ducal Palace, Mantua, depicts them with their family and court, showing that, in general, older men such as Ludovico wore long garments and younger men wore short garments. As in the north, young men in Italy wore the short houppelande cut to mid-thigh, fitted to the torso with organ pipe folds, held in place with a narrow belt. Although the headdresses of Italian women never reached the width of the butterfly headdress or the height of the hennin worn in northern Europe, the horned hairstyle was imported. Barbara of Brandenburg wore her horns horizontally in Italy, unlike the diagonal incline favored by her northern contemporaries. Alternatively, a lady's hair was caught up in ribbons. Hanging ribbons or laces, as well as gold braid and embroidery, were used on sleeves which were treated as an area of special elaboration for women and men. The scene of the *Arrival of Francesco Gonzaga*, from the same cycle by Andrea Mantegna, shows ribbons and/or laces used to hold sleeves in place at the elbow and/or shoulder. A range of images might be displayed on sleeves, including writing, emblems, symbols, and heraldic devices; it was fashionable to wear one's coat-of-arms on one's sleeves. The space required for such display was made available by cutting the sleeves in great sweeping widths.

The enduringly popular, short cut pourpoint for men in Italy was recorded in scenes painted by Paolo Uccello of the *Miracle of the Host*, in 1468, in the Ducal Palace, Urbino. During the fifteenth century, the torso of the pourpoint was cut in four basic pieces, seamed on the sides, center front, and center back, fitted to the body, with panels below the waist forming a peplum. The sleeves were puffed on the upper arm but fitted on the forearm with buttons or tight lacing. The pourpoints recorded by Uccello are very short, reaching only a few inches below the waist. Sumptuary laws passed in Florence in 1430 had tried to stop the diminishing length of the pourpoint, but such rulings may actually have

accelerated the spread and popularity of the style. The young fifteenth-century Italian nobleman covered his legs only with skin-tight leggings. Members of various societies identified themselves by the kind of leggings they wore. Decoration of the leggings could be extremely fancy and even include gems. Each leg might be a different color, as depicted here by Uccello, or one could be patterned and the other plain.

Piero della Francesca painted a pair of portrait panels of *Battista Sforza* and *Federico da Montefeltro*, the duchess and duke of Urbino, c. 1474 (Gallerie degli Uffizi, Florence). With the coveted artificiality of the age, Battista Sforza's hair has been treated as a sculptural medium, to be removed or augmented in different areas, wrapped in ribbons, and coiled about her ears. Pearls appear on her head and encircle her neck several times. The gown, however, is no longer a display of accumulated wearable wealth; instead, the black bodice provides an area of calm and serves as a foil for the surrounding spectacle.

Federico da Montefeltro ruled the city of Urbino as a gentleman who was loved by his people. A scholar and bibliophile, his court included humanists, philosophers, poets, and artists. Piero della Francesca depicted Federico da Montefeltro in strict profile, as was the norm at this time in Italian portraiture, whereas in contemporary northern portraiture the sitter usually turned slightly and was seen in a three-quarter view. Had that been done to the Duke of Urbino, viewers would have been given greater evidence of an accident he suffered in 1450 when he lost his right eye and the bridge of his nose to a sword in a tournament. His secret was safe: the three-quarter view was to become popular in Italy only in the last quarter of the century. Federico da Montefeltro wears a stiffly constructed red hat shaped like an inverted column base. Beneath the neck band of his red garment, the white undergarment is intentionally just revealed, a sign of status connected with the ability to have "clean linens."

Domenico del Ghirlandaio, the leading artist of this time in Florence, received the major painting commissions from wealthy Florentine patrons. The artist's real name was Domenico Bigordi; the origin of his nickname is of some interest here for his father was a dealer in the gold garlands worn by wealthy Florentine ladies. Father and son were both nicknamed Ghirlandaio, meaning "garland maker." From his youth, Domenico del Ghirlandaio was in contact with the most fashionable Florentines and the painting style he developed as an adult reflected the tastes of the wealthiest residents. He painted a mural of the *Miracle of the Spini Child*, in 1483–1486, in the church of the Santa Trinità, in which

the Florentine ladies wear gowns with short front-laced bodices and high-waisted, very full, long skirts. The quantity of fabric worn was a means of displaying wealth. Adult men and women of all classes normally covered their heads in one manner or another. Ghirlandaio records a man wearing the *cappuccio*, a big donut-shaped headdress formed over a cork hoop.

In the *Birth of Mary*, a fresco painted by Ghirlandaio, 1485–1490, in Santa Maria Novella, Florence, the first of the women in the group on the left is Ludovica, daughter of the wealthy merchant and donor, Giovanni Tournabuoni. She is followed by four attendants who are slightly less sumptuously attired: their garments are less closely-fitted, their fabrics not as rich, their skirts not as full—all distinctions of social class. Sleeves are shown to be slit or the seam left open, revealing the white silk or linen chemise worn beneath. This may be viewed as an early form of the slashing and puffing that was to become so popular in the sixteenth century. Here the system is both decorative and practical, allowing for mobility of the shoulder and elbow in a tightly fitted sleeve. Ludovica's sleeves flare at the wrists, permitting the cuffs to be turned back, revealing a lining of a contrasting color fabric. The highly animated woman on the right may be presumed to show the influence on Ghirlandaio of his trip to Rome. His appreciation for Roman antiquity is demonstrated by the double belts with the fabric bloused between, the floating white scarf, the type of sandal, and the simple hairstyle with the central part.

This chapter concludes with some advice from a medieval book of etiquette for gentlemen that explains how to properly care for one's clothing at bedtime. The gentleman's mantle, cote, surcoat, and huque may be hung on a rod. His chemise is to be placed over the head of the bed. And his breeches go under the mattress to press them. While this chapter has focused on what is referred to as high fashion, the following chapter is concerned with still higher fashion—ecclesiastical vestments intended to be worn for God.

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Ecclesiastical Vestments: Higher Fashion

The garments worn by members of the Church hierarchy during ceremonies and sacraments, ecclesiastical vestments, were perhaps the most sumptuous of the decorative arts of the Middle Ages. Because clergymen served God, much attention was paid to the attire they wore in churches and cathedrals—houses of God. Splendid garments of various types established the wearer's position within the religious ranks, conveyed a sense of power and prestige, and visually displayed the wealth of the Church. Great importance was attached to ecclesiastical vestments; a member of the clergy who behaved wrongly could be demoted and disgraced publicly by the removal of his religious attire. This is akin to the knight who was stripped of his title by being relieved of his sword.

Only a small percentage of the ecclesiastical vestments created during the Middle Ages have survived. However, ecclesiastical vestments are the only significant form of medieval textiles extant today. Some garments were intentionally destroyed when styles changed. Others were ruined as the fabrics decayed over time and threads broke, or as insects, mildew, or other forms of damage affected them. The sacred garments that have survived did so because, unlike secular garments, they were worn infrequently, were used only for ritual functions, and were otherwise kept in special chests and cupboards in the church sacristy along with the precious liturgical vessels. Vestments were highly valued and were passed down from generation to generation. Because members of the clergy were

buried in clerical dress, as opposed to the shroud used by the laity, ecclesiastical vestments have been preserved in tombs. In addition, written information is available in medieval texts, church inventories, and papal documents.

Materials and Methods of Ecclesiastical Vestments

A variety of embroidery techniques were used on medieval ecclesiastical vestments. The most celebrated is known as *opus anglicanum* (English Work), famous for the high level of artistry as well as the gold threads, pearls, and other jewels that were worked into the designs. In the thirteenth and especially the fourteenth centuries, the technique reached its highpoint in England. Inventories of embroidered vestments repeatedly refer to *de opere Anglicano*, *de l'ouvrage à la facon d'Angleterre*, and *de obra anglaterra*. Today, the term *opus anglicanum* is used for work of the twelfth through sixteenth centuries. Matthew Paris reports that in 1246 Pope Innocent IV wrote to his abbots in England asking them to send him, without delay, "embroideries of gold which he preferred above all others." *Opus anglicanum* was commissioned by the highest members of the Church and was mentioned frequently in inventories of the Vatican—113 times in the 1295 inventory. Embroideries were given as gifts, by the most important people, to the most important people, on the most important occasions.

Use of elaborate embroidery was not restricted exclusively to ecclesiastical vestments. For example, it is recorded that four women worked for nearly four years to complete the embroidery on a frontal made c. 1271 for the high altar of Westminster Abbey in London. From the fourteenth century on, it was the custom to make what were known as *chapels*, which meant that the clergy members' vestments and the altar coverings were produced together as a matched set, made of the same kind of woven fabric and decorated with the same kind of embroidery.

Opus anglicanum is executed using a technique called *underside couching*. To provide a smooth working surface, a piece of a thinner, stiffer fabric is placed on the garment fabric (usually silk velvet). The pattern is traced onto this surface. Embroidery is done through this thin fabric and the velvet. Ultimately, the portions of the thin fabric not covered by the stitching will be cut away. A thread, usually of gold (*gold thread* is made of gilded tin wound on yellow silk thread), is placed on the surface and held in place by couching threads (linen or silk threads, to which beeswax has been applied), worked from the reverse side. A loop of couching thread is brought up from the reverse side to encircle the gold

thread, returning this couching thread each time through the same hole to the back of the fabric; when the couching thread is pulled, a tiny loop of the gold thread is pulled down with it below the surface—hence the term underside couching. The process is repeated at small regular intervals. The couching threads are not seen on the front. The result is quite sturdy. An advantage of this technique is that each tiny loop acts like a miniature hinge, giving the fabric a bit of flexibility and thus making it suitable for clothing.

Surface couching, which may also be done with gold thread, is suitable for hangings and other uses of textiles that are intended to remain flat rather than to drape or move with a person's body. A cord or braid or heavy thread is placed on the surface of the fabric and sewn down using *whip stitches*, which are simple overcast stitches.

Laid and couched work is done on the surface of the fabric (usually wool or linen) by placing threads, usually of wool, closely spaced and side to side. Over this, threads are placed at intervals, running in the opposite direction. These threads are sewn in place using couching stitches. This is a far less time-consuming technique than *opus anglicum*. The so-called *Bayeux Tapestry* (see Color plate 21) was made using this embroidery method.

Satin stitches, found in *opus anglicanum* are used to fill an area with color by sewing rows of small stitches, consistent in size, side-by-side.

Split stitches, commonly used, are also found in *opus anglicanum* and are appropriate for making lines in very detailed embroidery. Work may be done with a single silk thread. Each stitch begins as a backstitch, for the needle comes up through the thread of the previous stitch (hence the name split stitch), and is then reinserted through the fabric along the line of the intended design.

Stem stitches are used for making lines and outlines (as opposed to solid areas of color). A series of small stitches of the same length are worked side-by-side, touching, but each stitch placed slightly further to the right than the preceding one. The stem stitch has a slight spiral. The closely spaced stitches create a line that is raised from the surface.

French knots look like raised dots and add decorative surface texture. They are made by inserting a threaded needle from the back of the fabric to the front, twisting the thread around the needle, and then reinserting the needle into the fabric in the same spot.

In spite of its value and popularity, little is known even about the way in which *opus anglicanum* was manufactured. Decorative elements recur, indicating that the embroiderers worked from common sources—pattern books survive in Magdalene College, Cambridge. As the style of *opus*

anglicanum is similar to that in contemporaneous manuscript illumination, especially the figures, perhaps the same pattern books were used by embroiderers and manuscript illuminators, or perhaps artists designed for both embroidery and manuscript illumination.

While England excelled in the production of opus anglicanum, other geographical areas specialized in their own types of embroidery. An early fourteenth-century Florentine technique called *opus florentinum* was highly regarded in Italy and northern Europe. The method used was to work on a strong background fabric, presumably of linen and cotton, with variously colored silk threads, using mostly split stitch but also some satin stitch. Placement of the stitches conformed to the shape of the object being depicted, creating a slight sense of three-dimensionality. The thickness of the threads varied according to the size of the area to be colored—thicker yarns were used for larger areas, thinner threads for small details. Silver and silver-gilded threads were applied with couching stitches. Greater three-dimensionality was created by sewing little bunches of soft cotton to the background fabric and then covering it with couched metal threads. Florentine embroidery reached a highpoint in the fourteenth century and continued into the fifteenth.

A Flemish technique called *or nué* (shaded gold) was used in the fifteenth century. It is associated with the Burgundian court and was used to make a set of vestments for the Order of the Golden Fleece during the reign of Philip the Good (r. 1419–1467). The technique was used to create light and shade effects comparable to those achievable by painters. Gold threads were laid down in parallel lines. The gold was then shaded with colored silk threads; in the dark areas the gold is almost hidden by close stitches, but it shows through and shines more in the lighter areas.

The organizational system for manufacturing medieval ecclesiastical vestments, although evidently highly structured, is not well known. Were vestments produced in monasteries and churches, or in ateliers and studios governed by guilds in towns and cities? Vestments were known to have been made by nuns, who created exquisite needlework during the Middle Ages. Certainly construction of these garments and their decoration was a lengthy process. A number of people may be presumed to have been involved in creating a single garment.

Masterpieces of Ecclesiastical Vestments

Ecclesiastical vestments consist of a repertoire of garments that gradually became fixed, although changes were subsequently made to certain

items. Because ecclesiastical vestments do not exhibit the same sort of evolution as the other subjects studied in this book, the information in this chapter is not organized in a strictly chronologically sequence. Instead, the vestments of the medieval Church hierarchy will be examined, followed by a discussion of the attire of specific groups such as religious orders and pilgrims.

Ecclesiastical vestments evolved from a combination of Jewish ceremonial priests' robes, Roman civil costume, and Byzantine attire. Little is known about what sort of garments were worn for religious purposes in the first four centuries of Christianity. Priests in the early years of Christianity dressed like laymen (according to Rabanus Maurus, archbishop of Mainz, writing c. 820). It is unlikely that early religious attire was uniform and it may be presumed to have varied according to the practical concerns of region, climate, availability of resources, and expense. In the third century, Pope Stephen I (r. 253–257) said that priests should not wear their sacred vestments in ordinary daily life (according to the Frankish monk, Walafrid Strabo, who lived c. 808–849). It is probable that for special events, such as the consecration of Old Saint Peter's in 327, Pope Sylvester (r. 314–336) would have worn something appropriately splendid. In fact, Sylvester stipulated that deacons should wear the *dalmatic*, a long-sleeved tunic, in church instead of the *colobium*, which was short-sleeved, and said they should cover their left hand with a cloth. Certain everyday secular items of attire were adapted for religious wear, but given new names.

As the general organization of the Church was gradually established, vestments became correspondingly standardized. This was due especially to the writings of Theodicius, for in 380 his *De fede catholica* gave the pope undisputed authority over all bishops. Papal decrees served to regulate a great many religious practices. Between the fifth and ninth centuries, ecclesiastical vestments similar to those known today appeared. Information on this is provided by the letters of Pope Gregory the Great (r. 590–604) and by the *Acts* of the Fourth Council of Toledo, held in 633 under Isidore of Seville. Three items were mentioned by Pope Gregory the Great as particular to Rome: the *mappula*, the *pallium*, and the *dalmatic*.

The *mappula* (or *maniple*), which began as a kind of napkin or handkerchief, evolved into a narrow strip of cloth similar to an embroidered ribbon and was usually draped on the left forearm or left wrist or over the fingers of the left hand. This band of fabric, worn by all but the lowest clergy, represents the rope with which Jesus was bound and led to Calvary, as well as penance, vigilance, and good works.

The *pallium* started out as a long strip of cloth worn looped around the neck with the ends crossed over the left shoulder.

The *dalmatic* is a long gown with wide long sleeves that cover the wrists. The long gown as religious attire goes back to Early Christian times. The name of the garment does not refer to its place of origin, but to the fact that it was made of Dalmatian wool. The dalmatic is shaped like a cross and thus refers to the passion of Jesus, yet it is also a symbol of joy, salvation, and justice. The dalmatic is an attribute of Saint Lawrence and Saint Stephen.

Between the ninth and the twelfth centuries, lists were made of ecclesiastical vestments and the meaning of each was established. Writing around 820, Rabanus Maurus, mentioned above, listed nine vestments for a bishop. What he described in the early ninth century remained valid through the twelfth century, a demonstration of the consistency of ecclesiastical attire over long periods of time. The nine items were the *alb*, *girdle*, *amice*, *stole*, *maniple*, *dalmatic*, *chasuble*, *sandals*, and *pallium*.

The *alb* (*tunica alba* or *tunica talaris*), worn under the dalmatic, is a variation on a long tunic with tight long sleeves. The alb is worn by deacons, priests, and bishops as an undergarment, but is worn alone by choristers, acolytes, and subdeacons. Councils held in 398 and 589 said deacons and lower clergy could not wear the alb outside church, except for ceremonial occasions. The alb was made of white linen, which was specifically prescribed for albs and altar cloths because it is a sturdy fabric that is easily washed and thereby kept white and spotless. The alb represents purity, chastity, and joy, and is also emblematic of the robe worn by Jesus when he was mocked by Herod's soldiers. The five wounds of Jesus are recalled by the embroidery patches, called *apparels*, on the sleeves, chest, and hem. Bands of applied embroidery on other garments are called *orphreys*, and similarly add to the richness of the garment.

The *girdle* (belt) could be ornamented with embroidery or gems, and might be variously colored. They were quite long—three or four yards or meters, although all but the ends may have been hidden by the folds of the alb.

The *amice* is a neckcloth that protected the wearer's neck from the embroidery—and the embroidery from the wearer's neck. Made of linen, it is rectangular in shape and is worn tied at the front of the neck. The amice could be raised as a hood, or lowered to form a collar. It was the first garment donned and everyone wore one. It represents the cloth used by Herod's soldiers to cover Jesus's face. Its white purity is also a warning against lies.

The *stole* was worn in different ways as a means of identifying the wearer's status. A deacon hung his stole from the left shoulder; a bishop draped his stole across the back of his neck so that it fell in front from both shoulders; and a priest wore his stole around the neck, crossed on the chest, held in place by his girdle. The stole derived from the classical *loros* or the ornamental bands on the ancient Roman *stola*. The stole represents power and dignity, as well as the yoke of the ox, and the need to work diligently to achieve immortality in heaven. Portions of an English maniple and stole from the relics of Saint Cuthbert with Anglo-Saxon embroidery worked with gold thread and colored silk thread, using stem stitch, split stitch, and surface couching, dated c. 915, are preserved in Durham Cathedral Library.

The *maniple* was discussed above.

The *dalmatic*, noted above to be a long tunic with long sleeves, was usually embellished with *orphreys*—bands of embroidered decoration that might include pearls. The orphrey embroidery is not done directly on the garment fabric, but on narrow bands of a different fabric that are then sewn onto the garment. Some ecclesiastical garments are hard to date because they have been reworked or restored. The orphreys may be older than the velvet, which wears out more rapidly and may be replaced. An early extant example is the *Dalmatic of the Holy Roman Emperor*, made in Sicily, 1130–1140, now in the Kunsthistorisches Museum, Vienna.

The *chasuble* is a poncho-like cloak worn over other vestments that derived from a garment originally worn by women and men as a travel cape. The name chasuble comes from the Latin *casula*, meaning “little house.” In 636, the Council of Toledo proclaimed it a liturgical garment to be worn by members of the clergy. In the Carolingian era it was already worn exclusively by priests, and later became the main garment worn at Mass by the priest, bishop, and archbishop. It is richly decorated with orphreys. The cut and shape of the chasuble evolved significantly through the centuries. As the outermost garment, the chasuble suggests protection and charity. It also represents the robe ordered for Jesus as the king of the Jews prior to his crucifixion. The dalmatic, chasuble, and stole are depicted in an eleventh-century mural of *Saints Peter, Mark, and Ermagord*, in the basilica of Poppo, Aquileia. Peter and Ermagord wear the dalmatic. Mark wears a stole and a chasuble. Additional information on the development of the chasuble is offered below.

A *rationale* is a type of chasuble. The *Rationale of Bishop Eberhard*, made in Germany in the first half of the eleventh century, is an early survival

of an actual vestment, now in the Diocesansmuseum, Bamberg. The rationale derives from the breastplate of the Jewish high priest, and evolved into the bishop's pectoral.

Sandals are an emblem of humility.

The *pallium*, mentioned above, was worn around the shoulders and had vertical streamers front and back by the eleventh century. When formed into a Y shape, it represents the crucifixion of Jesus. As a symbol of papal authority, the pallium was worn by popes and was given by the pope to certain archbishops as an honor.

In addition to these nine vestments listed by Rabanus Maurus, religious attire included soft gloves that were worn indoors. A rare survival are the *Red Gloves of the Holy Roman Emperor*, made in Sicily, 1200–1220, now in the Kunsthistorisches Museum, Vienna.

By the end of the twelfth century, religious costume was standardized in terms of the number and types of garments. From the thirteenth to sixteenth centuries, although no new items were added, old ones were refined. Modifications usually consisted only of minor changes such as the cut of a neckline or variation in ornamentation. However, there were two major exceptions to this consistency, the chasuble and the *mitre* (also spelled *miter*), discussed separately below.

The *chasuble*, which is pulled over the head like a poncho and hangs from the shoulders, changes in cut and shape between the eleventh and sixteenth centuries. Initially it was cut as a circle with an opening for the wearer's head. Then it became conical in shape, slightly longer in back than in front. Gradually, the cloth over the arms was cut away. By the end of the fifteenth century, the chasuble had become two quasi-ovals hanging from the shoulders, the back oval wider and longer than the front oval. The front was curved in at the arms to make it easier for the priest to move. These changes minimized the amount of fabric required.

The *Clare Chasuble* (Color plate 24) was made 1272–1294 of blue silk with a satin weave (probably Chinese) and embroidered in England with silver-gilt and silver thread and colored silks, applied in underside couching, split stitch, and laid and couched work. Within the four quatrefoils down the center back are depicted *Jesus Crucified* flanked by Mary and John; *Mary with the Infant Jesus* (seen in the detail); *Saints Peter and Paul*; and the *Stoning of Saint Stephen*. The repetition of a geometric shape—here a quatrefoil—to organize the composition is a characteristic of mid-thirteenth to early fourteenth-century opus anglicanum. Within a pattern of spiraling vine tendrils are a lion to the left and a griffin to the

right. The *Clare Chasuble* was originally a soft, fluid garment, long and full, covering the arms (the kneeling Saint Stephen is depicted wearing a chasuble). Unfortunately, it was cut down and the fabric stiffened by reinforcing it.

Although not mentioned by Rabanus Maurus, the most magnificent of vestments was the *cope*, semi-circular in cut and open down the front. The origin of the cope is similar to that of the chasuble over which it might be worn. Derived from a civilian garment called a *pluvial* (because it was intended to protect the wearer from rain), the cope began as a hooded cloak, used by the clergy as a liturgical garment at outdoor ceremonies as protection against rain and cold. It developed into a formal religious garment, worn for processions and solemn services and ceremonies. The hood on the original cope eventually became an ornamental patch on the back, as on the *Cope of Saint Kunigund*, c. 1010, a German work now in the Diocesan Museum, Bamberg. In the twelfth century, the cope became purely processional in use. The cope is worn by high-ranking clergy—particularly the pope.

An English cope with scenes of the *Crucifixion*, *Jesus and Mary*, and *Seraphim*, made of silk twill and embroidered with silk, gold, and silver-gilt threads, c. 1280–1300, is now in the Vatican, Rome. The cope represents purity, dignity, innocence, chastity, temperance, and self-restraint, although there was no restraint to the display of richness and luxury lavished on the cope itself. Medieval vestments are an art form using splendid fabrics, lavishly embroidered, with intricate opulent ornament.

Ecclesiastical vestments, as noted, were occasionally re-cut during the Middle Ages; a chasuble could be radically reshaped to become a cope, or a cope could become a chasuble. The *Syon Cope* (Photo 11.1) is English, made 1300–1320, of linen embroidered with silk, silver-gilt, and silver thread in underside couching, split stitch, and laid and couched work. Although now in the semi-circular shape of a cope, this vestment was originally made as a very full chasuble. In its reconfigured form, down the center back in quatrefoils are depicted the *Coronation of Mary*, the *Crucifixion of Jesus* with Mary and John, and *Saint George* spearing the dragon, all flanked by a variety of scenes. The decorative orphrey bands that border the cope were taken from contemporaneous ecclesiastical vestments.

The sumptuous English *Chichester-Constable Chasuble* (Color plate 25), made c. 1330–1350, was owned by the Chichester-Constable family in Yorkshire from at least the sixteenth century. Little is known about the early history of this chasuble, but sometime after the early sixteenth

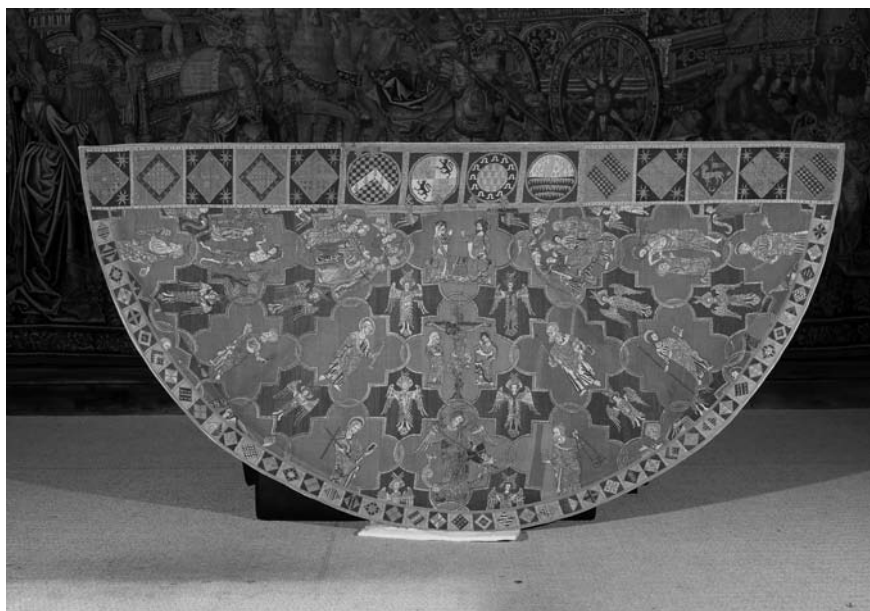


Photo 11.1 *Syon Cope*, English, 1300–1320, linen, embroidered with silk, silver-gilt, and silver thread, 9 ft. 8 in. × 4 ft. 10 in. (295 × 147.5 cm.). Victoria and Albert Museum, London, Inv.: 83–1864. Victoria and Albert Museum, London/Art Resource, NY.

century, when fashion changed, the chasuble was recut and reshaped—the shoulders were remodeled, and a stole and a maniple were made from the leftover pieces. The chasuble is very rich in terms of the materials used and the methods with which they were worked; the sophistication of the ornamentation is exceptional. The embroidery is the celebrated *opus anglicanum*, worked with silver, silver-gilt, and colored silk thread in underside couching, split stitch, laid-and-couched work, and raised work, with pearls—although most of the pearls are missing today. Exquisite needlework forms the various patterns on the cushions on the bench on which Mary and Jesus sit. The underlying cloth from which the garment is made is velvet. Several different words might be used in the Middle Ages to refer to one type of fabric: velvet was also called *vellutim*, *velvetto*, and *veluau*.

The subjects depicted on the front of the *Chichester-Constable Chasuble* are *John the Evangelist* and *John the Baptist*; *Peter and Paul*; *Andrew and James the Greater*; plus existing fragments were added. Hence, on the right is *Catherine's Wheel* and *Lawrence with his Grill*. On the back are, from the

bottom to the top, the *Annunciation*; the *Adoration of the Magi*; and *Mary and Jesus Enthroned*.

For whom this chasuble was made remains uncertain. Presumably, it was made in London, the center for opus anglicanum from the mid-thirteenth century on. Perhaps this chasuble was made as part of a set of vestments for King Edward III (r. 1327–1377). The earliest known mention of the *Chichester-Constable Chasuble* is in the 1559 will of Lady Margaret Scrope, wife of Sir John Constable.

The *Chichester-Constable Chasuble* at The Cloisters, New York, is similar in style to a cope in the Victoria and Albert Museum, London, known as the *Butler-Bowdon Cope* because it was formerly owned by Colonel W. Butler-Bowdon. In fact, the *Butler-Bowdon Cope* and the *Chichester-Constable Chasuble* look so much alike that the two may have been intended to be used together and were perhaps from the same chapel or set. The *Butler-Bowdon Cope*, also dated c. 1330–1350, is made of Italian velvet embroidered with silver, silver-gilt, and colored silk threads in underside and surface couching, split stitch, laid and couched work, with some French knots and satin stitches, and originally included many small pearls, small gold rings, and green beads. At some time before 1721 the cope was cut to make a chasuble, frontal, stole, and maniple. In 1854 it was reassembled into the semicircular cope shape, but some pieces are still missing. Three scenes from the life of Mary are shown along the center: from the bottom to the top are the *Annunciation*, the *Adoration of the Magi*, and the *Coronation of Mary*. The reigning king might have had himself shown as one of the kings in Adoration scenes—the old king on this cope may be Edward the Confessor, followed by Edward II and Edward III.

Although England dominated medieval embroidery, her embroiderers did not have a monopoly on this art form and the techniques used in other countries were noted above. Different styles of embroidery were used for ecclesiastical vestments depending on the place of manufacture. The German *Hildesheim Cope* was made in the fourteenth century of linen embroidered with colored silk thread, couched metal thread, pattern woven and tablet woven silk and metal thread, and appliqué (Victoria and Albert Museum, London). Although the methods used are familiar, the embroidery is executed with less skill than is characteristic of contemporaneous opus anglicanum. This cope depicts saints being martyred in various grotesque ways: Bartholomew is flayed, Lawrence is roasted, Peter is crucified upside down, Thomas Becket is beheaded, and other favored medieval forms of torture and murder are shown.

A fifteenth-century chasuble from Bohemia, now in The Cloisters, New York, has very dense stitches placed to conform to the shape they color. The Cloisters is also home to a Spanish fifteenth-century chasuble of red velvet that includes a favored subject, the *Adoration of the Magi*. In the *Dormition* scene Mary appears quite diminutive. This chasuble is ornamented with orphreys. The cope seen in Color plate 26 was made in the southern Netherlands, c. 1476, of black velvet with applied embroidery. Included in the decoration are the arms of the Duke of Burgundy. The outstanding characteristic of medieval ecclesiastical vestments is their sumptuousness; an aesthetic of extreme richness was sought and successfully achieved.

Interest in this time- and labor-intensive art form diminished after the Middle Ages. Although rich garments continued to be produced, they were no longer decorated with religious figures and stories. Instead, purely ornamental nonrepresentational imagery came to be preferred.

Hats

Ecclesiastical vestments were used to make the religious hierarchy of the Christian Church visually obvious. This is especially true of headwear. That worn by the pope, as leader of the Church, had a long history of change. Pope Gregory the Great (r. 590–604) was depicted in art of his era wearing a cap of white linen. The pope's hat is first referred to as a crown in the eighth century in a description of the life of Pope Constantine, although it is still depicted in art as a cap of folded white linen. This simple style seems to have continued into the tenth century. During this century, the tall, pointed, cone-shaped hat appears. It was first referred to as the Papal Tiara in connection with Pope Paschal II (r. 1099–1118). Initially, a tier of ornament was applied around the base, simulating the effect of a king's crown. Later, perhaps around 1200, a second tier was added above the first. The third tier was first noted in an inventory made in 1315 or 1316 of the papal treasury. Thus, eventually, only the Pope came to wear the triple-tiered crown that refers to the trinity.

The cardinals, appointed by the pope, are next in rank and wear red robes and distinctively shaped red hats with a broad, circular brim and low crown.

The bishop, who has charge of a cathedral and oversees the local parishes forming a diocese, wears the mitre as a symbol of authority and status. Less frequently, a mitre may also be worn by the pope, cardinals, archbishops, and some abbots with special permission. The mitre recalls

the pointed hat worn by the Jewish high priest as a symbol of authority. The two horns are an allusion to the two rays of light coming from the head of Moses when he received the tablets of the Ten Commandments, and refer also to the Old and New Testaments. In medieval art, three mitres are used as the symbol of Saint Bernard and also of Saint Bernardino because each refused the office of bishop three times.

Artists made use of the distinctive vestments, especially the hats, worn by members of the religious hierarchy to clarify their narratives. For example, in a painting by Conrad Witz of the *Presentation of Cardinal de Mies to Mary*, the Cardinal, shown wearing the bishop's mitre, is about to receive the cardinal's hat, indicating that he is being elevated to a higher position within the Church structure. The painting dates to the first half of the fifteenth century and is now in the Museum of Art and History, Geneva.

Elsewhere, ecclesiastical vestments were depicted without concern for historical accuracy. Sandro Botticelli painted the *Last Communion of Saint Jerome*, in which Jerome is identified by the red cardinal's hat above his bed. The painting, dated c. 1495, is now in the Metropolitan Museum of Art, New York. In fact, Saint Jerome is identified routinely in art by the cardinal's hat, in spite of the fact that the rank of cardinal was not known in Jerome's time—the fourth century.

Among the various ecclesiastical hats, the form of the mitre underwent the most pronounced change in shape. The mitre first appeared as a bishop's hat in the eleventh century, beginning as a round, pointed cap with two streamers down the back, called *lappets*, originally used to secure the hat to the head. Contemporary with this was the hemispherical or bowl-shaped mitre that continued into the twelfth century. During the twelfth century, the mitre acquired two horns on the sides, demonstrated by a mural of *Saint Augustine as a Bishop*, painted in the church of Saint Sernin, Toulouse. *San Silvestro* is shown wearing a mitre in a twelfth-century mosaic in the atrium of San Marco, Venice. The horns then moved to the front and back. *Saint Thomas Becket*, seen on a reliquary chasse, c. 1200 (The Cloisters, New York), as archbishop of Canterbury, wears the mitre with points fore and aft, as was the style of the time. The accuracy of this depiction is supported by an actual English embroidered mitre made c. 1200 with the horns front and back, on which the *Martyrdom of Becket* is shown on the front (Bayerisches Museum, Munich).

The appearance of thirteenth-century mitres was well-documented in various media. Stained glass from the Cathedral of Saint-Pierre, Poitiers,

c. 1210–1220 (The Cloisters, New York), records the early thirteenth-century shape of the mitre with double peaks, front and back. By the mid-thirteenth-century, as demonstrated by a mural that includes a depiction of a *Bishop* at the cathedral of Anagni, the horned hat was highly distinctive.

Actual mitres were made of silk or linen. An example is that from the thirteenth century, dated c. 1231, from the treasury of the Benedictine abbey church of Saint Peter in Salzburg, Austria (now in The Cloisters, New York). It is made of silk, with coral beads, and painted patterns. The two long flaps are the *lappets* or the *fanons*. This is believed to have been made from twelfth century material, but the abbots of Saint Peter's were permitted to wear mitres only in 1231.

In the fourteenth century, a French bishop's silk mitre (Photo 11.2) was painted with ink in the monochromatic *grisaille* technique discussed in previous chapters. In an extremely detailed style, there are depictions, the *Resurrection of Jesus* on the front and the *Entombment of Jesus* on the back, in which each scene is surrounded by a Gothic arch; below are a series of half-length saints, each beneath a small Gothic arch. The lappets are also painted in *grisaille*. Survival of such fragile work on silk is rare.

Another mitre, from the Sainte-Chapelle in Paris and perhaps made in Paris, also now in the Musée National du Moyen Age, Paris, is dated c. 1400. This mitre, however, is embroidered with threads of silk, gold, and silver, further embellished with pearls and glass beads. The *Annunciation* is depicted above and the *Adoration of the Magi* below. On the other side, the *Crucifixion* is above and the *Nativity* is below, organized by the architecture. The bottom of the mitre is encircled by depictions of the apostles. The lappets are also embroidered.

The Flemish painter known as the Master of Saint Augustine created the detailed depiction of *Scenes from the Life of Saint Augustine*, c. 1490 (The Cloisters, New York), that includes an inventory of late medieval ecclesiastical vestments. (This painting was used by Dr. Jane Hayward in her article in the Metropolitan Museum of Art's *Bulletin*, volume XIX, March, 1971, to summarize this complicated subject.) The three foreground figures wear the long alb of white linen decorated with apparel—the embroidered panels at the hem or on the cuffs, which may also be applied to the amice, the neck cloth worn under the alb. Orphreys are applied to the chasuble, cope, or dalmatic, on the front, back, and sides, as well as in the Y-shape on Saint Augustine's chasuble. The chasuble is the main garment worn at mass by priests, bishops, or archbishops. The two flanking bishops wear



Photo 11.2 *Resurrection of Jesus* on a bishop's mitre, French, fourteenth century, silk with grisaille. Musée National du Moyen Age, Thermes de Cluny, Paris. Erich Lessing/Art Resource, NY.

the cope, fastened across the chest with a strip of cloth here, or with a brooch (*morse*). These two bishops wear the mitre with two points and place a mitre on Saint Augustine's head, covering his tonsure haircut. The tunic worn by these two bishops is the dalmatic, here of rich brocade, shin-length, sleeved, usually decorated with orphreys. The maniple is a ribbon of the same material and color as the chasuble, embroidered, worn on the left forearm by both bishops. On the upper left is seen the stole, a long ribbon, often embroidered.

The splendid ecclesiastical vestments are only one aspect of sumptuous Church ornamentation during the Middle Ages. Other focal points for embellishment were the pulpit, organ, shrines, choir stalls, and

especially the high altar. Such richness was criticized, but was defended as suitable to adorn the Church. Sicardus (d. 1215) explained that through “visible textile ornaments the faithful are inspired to seek after the invisible treasures of heaven.”

Religious Orders

Members of the various religious orders established during the Middle Ages wore a basic garment known as a *habit*, which was long and loose with wide sleeves and a *cowl* that could be pulled up to form a hood. The attire of each order was rigidly prescribed and, within an order, the monks (brothers, *freres*, *fratelli*) wore identical garments. The orders were distinguished from one another primarily by the color of their habit.

The monk’s haircut, known as a *tonsure*, indicated membership in a religious order; the specific order was shown by the shape of the tonsure. Hair was shaved from the top of the head, simulating a bald spot—thereby made a virtue. The tonsure is symbolic of Jesus’s crown of thorns. Additionally, it is indicative of the rejection of temporal things and represents the perfect religious life.

The medieval Franciscan habit was recorded by Bonaventura Berlinghieri in his depiction of *Saint Francis and Scenes from his Life* (Color plate 5), in the church of San Francesco, Pescia. The painting is dated to 1235, only several years after the death of Francis of Assisi, founder of the Franciscan order. The Franciscans wore a brown habit with a brown hood. A belt or girdle of white rope was worn, which was knotted to recall the flagellation of Jesus. The belt is also a symbol of chastity. If the belt has three knots, it symbolizes the Trinity. In the *Saint Francis Cycle* in the upper church of San Francesco in Assisi (Color plate 8), painted at the end of the thirteenth century, the scene of *Saint Francis Preaching to the Birds* includes a clear depiction of the loose, hooded, wool habit. The Franciscans selected brown for its symbolic connotations of death and degradation. Later the Franciscans wore gray, as seen in Domenico Veneziano’s painting of the *Madonna and Child with Saints*, c. 1445, with Saint Francis on the left wearing a gray habit (Galleria degli Uffizi, Florence). Gray is the color of ashes and thus represents mourning, humility, and the death of the body, but not the spirit.

A Benedictine robe was among the many garments Thomas Becket was wearing when he was murdered in Canterbury Cathedral. His attire was depicted in art, for example, on a French enamel from the

thirteenth century, now in the Cleveland Museum of Art, and an English ivory from c. 1400, now in the Metropolitan Museum of Art, New York. More informative are the careful records made by his contemporaries that note Becket's outermost garment was a brown mantle. Beneath this, he wore a white *surplice*, which is a linen or cotton tunic, knee-length, with wide sleeves. Beneath this, he wore a lamb's wool coat; beneath this, two wool *pelisses* (long coats with fur); beneath this, a black cowed Benedictine robe; and beneath this, a shirt. The many layers of clothing are explained by the cold in twelfth-century Canterbury Cathedral when Becket was murdered on December 29, 1170. The garment closest to his skin was a suit of white linen, which was lined with *hair cloth* made of coarse, bristly horsehair. A hair shirt is specifically intended to torment the wearer and was a fashion among repentant medieval sinners. It was reported that Becket's hair cloth garment was thoroughly infested with vermin. The insects stimulated by the cold, Becket's garment was said to have "boiled over with them like water in a simmering cauldron." Evidently cleanliness was not regarded as closer to godliness during in the Middle Ages. The healing power attributed to a hair shirt is demonstrated by the medieval story of a child restored to life by Saint Radegonde's hair shirt.

In the upper church of Sacro Speco, Subiaco, a depiction of *Saint Benedict and Santa Scolastica* shows the twins engaged in a dialogue in a fifteenth-century mural. The Benedictines wore a black habit and cowl. Black was a color of humility and penance, as well as of death and evil during the Middle Ages. Scolastica was the first Benedictine nun. Her face is partially veiled. In English, we use the phrase "to take the veil," which means to join a nunnery. The meaning is the same in the French *prendre la voile*.

The Dominicans, and later also the Celestines, wore a white gown covered by a black cloak and cap. Dominican attire is recorded in a mural by Fra Angelico of the *Crucifixion with Saint Dominic*, in the monastery of San Marco, Florence, and his painting of the *Death of Saint Dominic*, a mid-fifteenth-century work, now in the Musée du Louvre, Paris. This habit is the basis of a visual pun in Andrea da Firenze's *Allegory of the Church and the Dominican Order*, a mural in Santa Maria Novella, Florence, painted c. 1366–1368. The Dominicans are portrayed as the *domini canes* ("dogs of the Lord") shown here as spotted black and white dogs.

The Carthusians wore white gowns, as seen in Jan van Eyck's *Madonna and Child with Saints*, which includes a Carthusian monk who was the donor. Dated to c. 1425, the painting is in the Frick Collection, New York.

Pilgrims

The medieval predilection for undertaking long pilgrimages to visit and venerate holy sites and objects was discussed in Chapter 7. Early pilgrims wore “penitential dress”—a robe of rough wool, long and loose in cut. Pilgrims carried their food in a pouch that hung from a strap over a shoulder. A walking staff was helpful. Pilgrims either wore rough sandals or went barefoot; comfort was not a concern of the penitents.

A pilgrimage might also have a more social and educational aspect. As mementoes of the sites they had visited, pilgrims acquired “pilgrim badges” that were sewn or pinned to their clothing. Perhaps the best known of these badges is the shell of Saint James of Compostela, acquired at the major pilgrimage site of Santiago de Compostela in northwest Spain. An alabaster sculpture of *Saint James the Greater* by the Spanish sculptor Gil Siloe, 1489–1493, in *The Cloisters*, New York, proves costume to be an excellent means of identification. Saint James is routinely shown dressed as a pilgrim on route to Santiago de Compostela, carrying a staff, a bag over his shoulder, wearing a long gown, a cloak with the identifying shell for a clasp, and another shell from the beaches of Galicia on his hat.

In conclusion, medieval ecclesiastical vestments were among the forms of art used to enrich the Church and its solemn religious services with sumptuous splendor. The following and final chapter is concerned with a different medieval mode, that of the military, which was required to be functional on the field of battle.

Armor: Dressed to Kill

The Middle Ages, an era of seemingly incessant military battles, was the highpoint in the history of armor. Although manufactured initially for defensive purposes, armor became an art form, created with an eye to aesthetics. Changes in the styles of armor reflected those in secular attire (discussed in Chapter 10), while the development of *mail* garments and the gradual change to *plate armor* reflected the need for effective protection from progressively more powerful weapons and military tactics. With the advent of guns, armor was no longer adequate protection for a soldier. This chapter examines medieval armor in western Europe prior to c. 1500. Although armor continued to be made during the Renaissance, it was used for ceremonial rather than defensive purposes.

Chivalry: The Days of Knights

The word chivalry comes from the French *chevalier*, meaning a knight or horseman (*cheval* means horse). Chivalry was the idealized knightly system of the Middle Ages, with its associated virtues and qualities. The medieval knight was a valiant man of honor, a courteous and dignified gentleman who performed gallant deeds, yet he was also warlike and skilled in the use of arms. The ideal knight served the Church and worthy causes, was devoted to the weak and oppressed, generous even to his foes. The armor and weapons used by a knight had social significance—a peasant could not carry a knight's sword or lance. If a knight was found to have done something wrong, he was publicly disgraced by having his sword broken—the symbolic final blow before being expelled from knighthood.

A boy began to train for knighthood as early as the age of seven when he became a *page*. As a teenager, he became a *squire*. Around the age of twenty-one, he was initiated into knighthood. This ceremony is described in the poem *Ordene de Chevalerie*, an anonymous work written in northern France, probably before 1250. It includes the story in which Hugh, Count of Tiberias, shows Sultan Saladin the ceremony in which one becomes a knight, in return for which the Sultan agrees to free Hugh. The process Hugh describes begins with a bath to symbolically wash away sin, followed by sleep in a bed that represents the rest of paradise. The knight's attire consists of a white robe representing cleanliness of the body, a scarlet cloak for the blood he will shed, brown stockings for the earth in which he must eventually lie, a white belt symbolizing virginity, and gold spurs to indicate he will swiftly follow God's commandments. His sword has two edges—one for loyalty and justice and the other for defending the weak from the strong. This ritual robing should have been followed by the *colée* or *paumée*, the dubbing with a light blow of the hand or sword, but Hugh could not strike his captor.

Knighthood was a noble status. The *Nine Heroes Tapestries* (discussed in Chapter 9), woven around 1385 in Paris, now in The Cloisters, New York, includes a depiction of *King Arthur* (d. 520), with his banner and surcote bearing the triple crowns of England, Scotland, and Brittany. In the story of *King Arthur and the Knights of the Round Table*, once a knight had won the right to a place at the Round Table, by skill or by service, he was equal to the other knights, no matter what his original social or financial status might have been.

A medieval knight fought for his lady. Rather than his own “girl-friend” in today's sense, his lady was the wife of a count or a high baron. Her acceptance of the knight's devotion gave him entry into court life. Knights were to fight for two rewards: “Heaven and the recognition of a noble woman.” In fact, the worst treasons a knight could commit were to slay his lord, to surrender his lord's castle, or to lie with his lord's wife.

Crusaders and Military Orders

The crusades of the Middle Ages were military campaigns into the Holy Land, launched in 1095 by Pope Urban II, directed against the Muslims. In 1096, Pope Urban II proclaimed that all “the first crusaders” were to put a red wool cross on their clothing. The crusaders wore a distinctive costume badge, which was a red cloth cross sewn on the right

shoulder. There were to be nine crusades between the eleventh and thirteenth centuries. The crusades brought western Europeans into contact with little-known Eastern customs such as frequent bathing. Westerners were introduced to Arabic Kufic writing which they found attractive, not for the meaning of the words, but for the shapes of the letters which were viewed as decorative patterns and were incorporated into designs on garments.

During the Middle Ages, long before efforts to separate Church and State, there were military religious orders. A depiction of a *Knight-Monk* is found on a twelfth-century capital of the church of Sainte-Foy, Conques. The Knights Templar was a military order thought to have been started in 1115 by nine knights who traveled with pilgrims in the Holy Land and defended the Latin Kingdom of Jerusalem. The Templars were well-trained in warfare, fully equipped with armor and weapons for combat, and forbidden to retreat in battle in almost all circumstances. Their horses, too, were trained for battle and were armored. The Templars might be joined in battle by crusader armies. The Knights Templar were the earliest military organization to wear a uniform; their habit was a surcote or mantle of white, symbolizing the mandatory chastity required by the order. During the Second Crusade (1147–1149), the Knights Templar were given permission to embellish their surcotes with the addition of a red cross. Bernard of Clairvaux, one of the most articulate advocates of austerity of all times, disapproved of elegant attire and visual ornament in general, but endorsed the Knights Templar. Writing in 1127, his approval of their simplicity in dress and in bodily habits was expressed: "They are never seen combed and rarely washed, their beards are matted, they reek of dust and bear the stains of heat and the harness." Gradually, the Templars became one of the wealthiest of the crusading orders. In 1312, the order was officially dissolved by Pope Clement V.

Heraldry

Heraldry first appears in the Middle Ages. Geoffrey Plantagenet (d. c. 1152) is thought to have introduced the first medieval heraldic crest—the rampant lion, worn on his shield and hat, as depicted on a champlevé enamel plaque, made in Limoges, that was on his tomb in Le Mans Cathedral (now in the Musée de Tessé, Le Mans). As king of the beasts, the lion carried many favorable connotations during the Middle Ages, including watchfulness and courage, and was a symbol of Jesus's

resurrection. Count Geoffrey V of Anjou sired the Plantagenet line of kings, beginning with Henry II of England. The unusual name Plantagenet comes from a yellow plant called *planta genesta*, with which Geoffrey decorated his helmet.

In the time of the crusades, heraldry became a complex system of visual identification for families and their servants. Images of animals, objects, patterns, and colors were used. At first, heraldry was employed only during military battles as a very useful system of identification when helmets covered the combatants' faces. A family's coat-of-arms might appear on the surcote worn over a knight's armor, on his shield, and on his horse's trappings. Heraldry came to be used also in tournaments. The popularity of heraldry spread into civilian attire and one's coat-of-arms might be displayed on a mantle and even on stockings. The system of symbols became extremely complex as families intermarried and combined emblems and colors.

Materials and Methods of Medieval Armor

Unfortunately, there is no written source on the materials and methods used by medieval armorers that provides a level of information comparable to that provided by Theophilus, Heraclius, or Cennini on other medieval arts discussed in previous chapters.

Early armor was made from *mail*, also called *maille*, later called *chain* or *chain mail*, or *chain maille*, or *chainmaille*, or more recently, *chainmail*. This material is composed of countless tiny metal rings that are linked together to create a flexible mesh. The use of mail goes back to the first millennium BCE and reached its peak during the Middle Ages, especially in the thirteenth century.

Medieval mail was made from metal wire which was beaten flat, wound around a tube, and cut into rings. The two ends of each ring were flattened and holes were made in the ends. Each ring was looped through four others, and then the ends of each ring were fastened together with rivets or punches or solder. Alternatively, the rings of some mail are flat and may have been cut from sheet metal. *Double mail* is made with two rings together throughout. The sections of a mail garment were attached together with laces. Mail leggings (*chausses*) were laced up the back.

A garment made of mail, because it consisted of a multitude of minute metal rings linked together, was flexible and therefore fairly comfortable to wear. Mail provided a soldier with good protection against suffering a

cut, as might be inflicted by a sword, and provided a degree of protection against some missiles. But, because mail is not rigid, it does not protect from the force of a blow or from blunt trauma, leaving the soldier subject to internal injuries, hemorrhages, and broken bones. Several methods of minimizing these problems were employed: the rings could be made smaller; the mail could be doubled; or another garment could be worn under the mail, such as a *gambeson* or *aketon* or *pourpoint*, all of which were quilted, padded, and stuffed. Alternatively, a rigid garment could be worn over the mail, which led to the gradual development of *plate armor*.

Plate armor was not necessarily metal when it began to replace mail in the fourteenth century; instead other materials such as whale bone or boiled leather (known as *cuir bouilli* in Italian) were also used. Metallic plate armor could be of *latten*, an alloy of copper, or of iron or steel. Iron, a malleable ductile metal, was more likely to be wrought than cast because the melting point is high, it is not especially fluid when melted, and it contracts as it cools. Iron and its alloys oxidize or rust when exposed to damp air.

Steel is an atypical alloy because it is made of iron combined with a bit of carbon, which is a nonmetallic element that serves as a hardening agent, and perhaps other metals. Steel is harder, stronger, and resists corrosion better than iron alone, but is more brittle. Steel with a low carbon content is malleable and, when heated to redness, is called *mild steel* or *soft steel*; in contrast, *hard steel* cannot be worked as it is not malleable.

Plate armor was made from forged billets of metal. The first step was to beat the metal into plate, hammered flat by the strength of the armorer's muscles or by water-powered tilt (trip) hammers. The tilt hammer has a long history going back to Han Dynasty in China and was used in Europe by the twelfth century—it is mentioned in a French document of 1116. The metal was hammered hot or cold. After the pieces of armor were forged, they were rough and blackened. Polishing was done by a polisher or millman using rotating wheels driven by water. The finisher made the strappings and lined each piece of armor.

Decoration might be added by etching and gilding. Etching was done by using a corrosive acidic mordant that “bites” into the metal, creating recesses below the surface. Late medieval tournament armor could be decorated with gold which was applied by *fire gilding*, presumed to be the oldest method of gilding. The technique required the gilder to apply an amalgam of gold and mercury to the surface of the armor. When this is heated, the mercury vaporizes, leaving the gold behind. The technique is dangerous for the gilder due to the toxicity of the mercury fumes which

may cause brain damage. Next, the color may be enhanced by applying *gilder's wax* and what is described as a paste of salts in water or weak ammonia. Finally, the surface would be stamped with the armorer's stamp—a form of signature.

Armor could be made to order or bought ready-made, which was referred to as “off the peg”—what is today called “off the rack.” Either way, armor was very costly.

Tools used to make armor remained much the same over the centuries and were quite consistent among different countries. The earliest known inventory of tools used by an armorer is dated 1302 and lists those owned by the Constable de Nestlé in the Hôtel de Soissons in Paris. An English inventory made only a few years later in 1308 lists the tools at Framlingham Castle in Norfolk. Many more items are listed in the inventories made in 1344 and 1361 by the Constable of Dover Castle, although the meaning of every item on the list is no longer apparent.

The English author Geoffrey Chaucer (c. 1343–1400), in his story of the *Knight's Tale*, written in 1386, refers to the armorer who traveled to tournaments or to war in order to maintain his lord's armor. For such a journey, the armorer needed to pack items including plaited laces used to attach the armor; emery and oil used to clean the armor; and leather, nails, nippers, pincers, pumice stone, files, and an anvil and hammer to mend the armor.

In spite of being made of so durable a material as metal, few full suits of armor survive today. The thin metal rings that make up mail tend to corrode and rust away, leaving few examples extant and none completely intact. Even plain plate armor must be continually maintained if it is to remain clean and shiny. To avoid rust, armor should be scoured and, at a minimum, it must be oiled (olive oil is recommended) as it will otherwise deteriorate. Further, in part because armor takes up quite a lot of space to store, pieces of armor were likely to be cut up or melted down when no longer in use. Some pieces were put to new uses, such as helmets that were turned upside down and re-used as buckets. Thus little plate armor made prior to the late Middle Ages remains. Fortunately, excellent documentation of armor is provided by its depiction in secondary sources.

Masterpieces of Medieval Armor

The *Bayeux Tapestry*, discussed in Chapter 9 (Color Plate 21), embroidered in the late eleventh century, documents the 1066 Norman

conquest of England by William the Conqueror. In various portions of the story, as that depicting William and Harold going to Bayeux or the Normans advancing for battle, the armor is depicted clearly. They wear Norman helmets (described below in the section on helmets) and *hauberks*—knee-length shirts made of mail, that were pulled on over the head and slit at the bottom in back and front to facilitate riding the horse. In the eleventh century, the sleeves came to the mid-forearm; later they may be longer and end in mittens. A mail shirt was highly valued and, at first, was usually worn only by commanders. Later, the mail shirt came to be the mark of a knight.

As the *Battle of Hastings* rages, the Norman soldiers attack with spears and protect themselves, especially from blunt trauma, with convex shields of an inverted teardrop shape, referred to as *kite-shaped shields*, that were made of wood, covered with cloth and leather, and painted. Each shield has a protruding boss or *umbo* in the center that protects the hand holding the shield grip on the inside.

Defensive attire seems to have been fairly consistent in the eleventh and twelfth centuries. The same shape shield is seen on the twelfth-century walrus ivory *Bury Saint Edmunds Cross* (Photo 5.3), thought to come from the English abbey of that name. The scene of *Holy Women at Jesus's Tomb* on one of the terminals shows the soldiers sleeping below, their shields serving in place of blankets. Their lances and long swords lie by their sides.

Carved of stone and on a larger scale are the *Sleeping Soldiers* (Photo 12.1) with colorful modern repainting, on a twelfth-century capital in the apse ambulatory of the church of Saint Austremonie in Issoire, France. The soldiers have hung up their shields of the Norman shape, each with its knob-like umbo in the center. The soldiers are recorded wearing the long hauberk of mail over a white cloth tunic, visible at the hem and sleeves, which was to protect one's skin from abrasion. These soldiers, seemingly stacked up, sleep with their helmets on.

Also carved in twelfth-century France is a capital at the church of Notre-Dame-du-Port in Clermont-Ferrand that depicts the *Virtues and Vices* in combat. The Vices are trampled underfoot by the victorious Virtues wearing skirts and shirts of mail. Their helmets are bowl-shaped with a mail *ventail* (*ventaille*) covering the neck.

On a twelfth-century capital in the church of Sainte-Marie-Madeleine in Vézelay, *David and Goliath* are depicted fighting. While the shepherd boy David wears no body defenses, the giant Goliath is fully equipped with a helmet having a slightly peaked crown, a mail hauberk, and a



Photo 12.1 *Sleeping Soldiers*, wearing long shirts of mail (hauberks) over cloth garments, French, twelfth century, stone with modern polychromy, capital in apse ambulatory of abbey church of Saint-Austremoine, Issoire. Author's photo.

fabric garment showing beneath. Yet David has triumphed, for the rock propelled by his sling is now firmly implanted in Goliath's forehead. David removes Goliath's broad sword from its scabbard, and uses it to decapitate Goliath. Goliath's defensive dress was not new in the Middle Ages; the biblical Book of Samuel says that Goliath wore a coat of mail, brass *greaves* on his shins, and carried a brass shield.

Jean d'Alluye (Photo 12.2) is known to have gone on crusade in 1240 and to have died in 1248. His funeral effigy, from the abbey of La Clarté-Dieu near Tours, depicts him as a medieval crusader. His shield was painted with his coat-of-arms, but the pigment has disappeared now. The kite-shaped shield used by the eleventh-century Normans was replaced by the flat-topped shield made in a shape called a *heater*, because it resembles the bottom of an iron used to press clothes, although the shield curves slightly to better protect the wearer. The heater was already in use by Geoffrey Plantagenet (d. 1152), clearly recorded on his enamel tomb effigy, mentioned above. This shield was



Photo 12.2 *Funeral Effigy of Jean d'Alluye* (d. 1248), from the abbey of La Clarté-Dieu, near Tours, French, mid-thirteenth century, stone. The Metropolitan Museum of Art, The Cloisters Collection, New York, 1925 (25.120.201). Image © The Metropolitan Museum of Art.

used both defensively and offensively, because the flat edge could function as a weapon.

Metal defenses covered Jean d'Alluye's entire body. Over his armor, he wears a cloth *surcote* (*surcoat*), sleeveless at this time, later given sleeves. The practical value of the surcote may be appreciated by imagining the soldier encased in metal armor on the battlefield in the afternoon heat of a sunny summer day; the surcote prevented soldiers from slowly baking inside armor that otherwise became mobile ovens. Additionally, the surcote helped to prevent the armor from rusting in the rain. The surcote is cut like a poncho, pulled on over the head, the fullness held in place by a narrow belt. Below the narrow belt, Jean d'Alluye wears a wide belt from

which his scabbard hangs. Under his surcote, he wears the mail hauberk. In the thirteenth century, this continued to be the main method of protection. Its construction improved during the crusades, the mail becoming progressively finer and lighter. Mail was now quite flexible, strong, and comfortable. By the end of the twelfth century, the hauberk sleeves were equipped with bag mittens, seen here, which were easily put on or taken off. By the mid-thirteenth century, these mittens might acquire fingers and become gloves. The hauberk extended into a *coif* to cover the neck and head. In the thirteenth century the coif was integral to the hauberk, made with a thong or cord at the edge, woven into the mail, to fit the coif firmly to the face. Over this was worn a helmet. Under his hauberk, Jean d'Alluye wears a *gambeson* to protect his skin from the otherwise irritating abrasion of the mail. His leggings are of mail, fastened up the back, with the soles sewn in. Spurs were buckled to the ankles.

The historical accuracy of Jean d'Alluye's armor may be assessed by comparing it to contemporaneous depictions of identical armor in various other media. Thus the same heater shield was recorded in mid-thirteenth-century stained glass in the Sainte-Chapelle in Paris, in the *Invasion of Holofernes*. The heater-shaped shield is shown worn over the soldiers' backs in self-defense, the curved shape wrapping around their bodies. Exactly how such a shield was held is shown in the scene of *Joshua Bidding the Sun to Stand Still*, an illumination in the *Psalter of Saint Louis*, from the mid-1260s. Everyone wears the surcote, sleeveless and belted, over their mail garments.

Similarly, the spurs worn by the French knight Jean d'Alluye c. 1248, may be compared with those seen on the English *Knight* c. 1250, as clearly drawn by Matthew Paris (British Library, London). Although the practical purpose of spurs was to prod one's horse, like so many other things during the Middle Ages, spurs also indicated the wearer's social status. Their significance is demonstrated by the fact that they were part of the coronation insignia and that, on being knighted, a man was said to have "received his spurs."

A thirteenth-century stone sculpture of the *Communion of a Knight*, on the inside of the facade wall of Reims Cathedral, carefully records armor of mail. In February 1266, at Benevento, Charles of Anjou battled Manfred, King of the Two Sicilies. The German mounted soldiers wore plate armor, which was as yet unknown to the French.

The thirteenth-century French poem, the *Roman de la Rose*, says no armor can protect from the *crossbow*. The crossbow took longer to load and shot shorter thicker arrows than the *longbow*, but required less

strength to shoot and propelled the arrow with greater force. An arrow shot by either the longbow or crossbow could penetrate mail. In the guardhouse at Castello di Avio in northern Italy, frescoes from the thirteenth to fourteenth century of *Cavalry and Archers* depict the deadliest weapon of the time—the longbow. If shot at fairly close range, the arrow propelled by a longbow could penetrate even plate armor.

Italian armor of this time is recorded in a fresco by Pietro Lorenzetti of the *Flagellation of Jesus*, c. 1320, in the lower church of San Francesco, Assisi. Depicted here is the one-piece breastplate with *tassets*, which are one or more separate pieces of plate armor hanging from the breastplate to provide protection for the upper thighs. The breastplate is held in place by straps at the back. Medieval Italy retained her link to the antique—this form of armor derives from ancient armor and is similar to the breastplate worn by the Roman Emperor Augustus, as documented by the statue known as the *Augustus of Primaporta*, now in the Vatican Museums, Rome.

In the *Second Seal* (folio 8 recto) in the *The Cloisters Apocalypse* (now in The Cloisters, New York), a manuscript illuminated c. 1320 in Normandy, strife is represented by men fighting with stones, swords, clubs, and staffs. Their leggings and coifs of mail, shallow bowl-like helmets, and surcotes are all much as they had been in the preceding century in France. The shirt of mail persisted in various lengths, but now was worn with the *coat of plates*. In the fourteenth century, the most common kind of armor was made of leather or cloth, lined with separate sections of metal plates, riveted in place, and known as the coat of plates. Worn over the hauberk and under the surcote, the coat of plates was a T-shaped garment that protected the torso. The coat of plates fastened along the back with buckles and laces. It was a descendant of the *broigne*, which is a *jerkin* of leather or strong linen, reinforced by a metal or horn framework, found in the twelfth through fourteenth centuries. This is much like the *jack* (*jacket*, *doublet*) which usually was lined with small metal plates that were laced together but might only be padded. At the battles of Crécy (1346) and Poitiers (1356), most of the knights fought wearing the coat of plates.

The *Sepulchral Monument of Ermengol X* (d. 1316), carved of limestone in Spain, c. 1300–1350 (now in The Cloisters, New York), depicts the Count of Urgel in complete armor. Over his cote, he wears a reinforced *gambeson* made of heavy canvas or leather that is interlined, quilted, and studded with metal in various designs and armorial insignia. (Although not visible, he may have also worn a shirt of mail underneath.) On his

head he wears a mail coif, and on his neck a *gorget*, which is a plate metal collar. Plate *greaves* cover his lower legs—this is the first known example of closed greaves. This monument depicts the earliest known full-plate arm harness; the lower arm has plate defenses, shaped like half a cylinder, strapped to the arm. Thus his lower legs and arms are protected by plate. The metal gloves that protect the count's hands are *gauntlets*, first mentioned in 1296. Plate defenses for hands improved in the late thirteenth century, when gauntlets replaced mail mittens. Gauntlets were of two types: one consisted of cloth gloves with whalebone, and the other of cloth or leather gloves lined with metal plates. Spikes might be attached to the knuckles.

Garments of mail continued to be worn, but became progressively thinner, as seen on an actual shirt of mail (Photo 12.3). This example is called a *haubergeon* because it comes only to the upper thigh, whereas the longer hauberk came down to the knees. The German example illustrated here was made in Nuremberg, c. 1350.

French armor of the second half of the century is depicted in the *Grandes chroniques de France de Charles V*, an official history of the French monarchy, written in Paris between 1375 and 1379. The fourteenth-century French knight wore three basic layers for defense: the gambeson or aketon; the mail hauberk, and the coat of plates, as documented on the folio that illustrates the *Murder of the Marshals of Normandy and Champagne*, which was done by the armies of Étienne Marcel on February 22, 1358.

The fourteenth-century knight's major weapon was the *long sword*, a highly effective weapon. The wide horizontal section between the handle and the blade was designed to keep an opponent's blade from sliding along the wielder's blade and striking the hands, as well as to keep rain-water out of the scabbard, thereby preventing the blade from rusting. Both hands could be used to wield the sword with enough force that a blow would remove a person's limb. According to the *Chronicles* of Jean Froissart (c. 1337–c. 1405), in the 1381 Peasants' Revolt in England, Sir Robert Salle of Norwich is described as having drawn a long Bordeaux sword with which "he cut off a foot or a head or an arm or a leg with every stroke." Medieval spears were approximately seven feet (2.1 m) long, with a diamond-shaped end. A lance measured about twelve feet (3.6 m.) long.

In the late fourteenth century, possibly earlier, the *brigandine* developed from the coat of plates. The brigandine, shaped like a sleeveless vest that comes to just below the waist, is more refined in construction and the garment more flexible than the coat of plates due to the use of smaller,



Photo 12.3 Shirt of mail (*haubergeon*), German, from Nuremberg, c. 1350, iron. G. Musée de l'Armée, Paris, Inv. 2749 PO. Musée de l'Armée/Dist. Réunion des Musées Nationaux/Art Resource, NY.

overlapping metal plates or horizontal lames, scale-like in appearance, all attached by rivets to a strong canvas or leather foundation. The chest area might be protected by larger metal plates. The whole garment is covered on the outside with an attractive fabric such as velvet or silk, the result being a fancy, fitted, defensive vest. The rivet heads that fasten the plates to the outer fabric cover might be decoratively gilded. The name brigandine was associated with a *brigand*, which originally referred to a foot soldier, and only later to a bandit, one who lives by plunder. A variation on the brigandine was known as *splinted armor* in which the

metal plates are riveted to a linen foundation. Rows of metal plates might alternate with rows of mail.

Although few examples of plate armor from before the second half of the fourteenth century have survived, an excellent source of information is provided by documents created in other media. The tomb effigy of *Bertrand du Guesclin* (d. 1380), in the royal abbey church of Saint-Denis, shows him wearing a short-sleeved surcote. Beneath this, the mail hauberk shows. And beneath this, throughout the fourteenth century, the quilted and padded gambeson or aketon was worn. Bertrand du Guesclin's arms and legs are protected by plate armor, which began to be used in the thirteenth century on the legs of mounted soldiers to protect them from the weapons wielded by foot soldiers and was used with increasing frequency in the fourteenth century.

Gradually, armor evolved into a *harness of plate*—a complete suit of armor. By the close of the fourteenth century, the harness of steel had appeared. Plate provides protection not only by the thickness of the metal, but also by being formed into shapes that present what are referred to as “glancing surfaces” intended to deflect the force of a blow. Plate was worn by foot soldiers and mounted soldiers.

Although no complete suit of armor survives from the years around 1400, the Metropolitan Museum of Art, New York, has a composed Italian suit of armor (Photo 12.4) from c. 1400 and shortly thereafter, made from individual pieces of armor found in a Venetian fortress at Chalcis, the main town on the Greek island of Euboea, then under Venetian control. The upper body is protected by a form of the brigandine made with many small overlapping little metal plates riveted to the inside of a doublet. The brigandine is worn over a shirt of mail. The helmet is a visored *bascinet*, a type that is discussed later in this chapter. (The red velvet covering the brigandine is modern and portions of the armor are restoration.)

This suit of armor documents the transitional period from mail to plate when mail was worn on the torso under the plate. The chronicles of the 1415 Battle of Agincourt say the larger French army was defeated by the English because the French knights persisted in wearing old-fashioned mail down to their knees under their new plate armor. Demonstrating the impact of armor on medieval history, the French soldiers were too encumbered by the combined weight of the hauberk and the plate armor to move effectively in battle. If a soldier were knocked off his horse, the armor that had been designed to protect him made it difficult, if not impossible, for him to remount, leaving him extremely



Photo 12.4 Armor, c. 1400 and later, steel, brass, textile, h. 66 1/2 in. (168.9 cm.). The Metropolitan Museum of Art, New York, Bashford Dean Memorial Collection. Gift of Helen Fahnestock Hubbard, in memory of her father, Harris C. Fahnestock, 1929 (29.154.3). Image © The Metropolitan Museum of Art/Art Resource, NY.

vulnerable. Although the early fifteenth century was the intermediary era between mail and plate, in fact, the mail hauberk, shaped like a long shirt with a slit up the front and back to facilitate riding a horse, was worn under plate armor until the end of the century.

In 1430, Joan of Arc wore a complete suit of plate armor. She was captured in that year by a Burgundian soldier because of her attire. She was wearing a sleeveless surcote of silk over her armor, which he grabbed and pulled until she was nearly strangled. Here, too, a soldier was made more vulnerable, rather than protected, by attire meant for defense. Joan of Arc would later be burned at the stake in Rouen.

Armor was depicted in the highly detailed painting of the *Madonna and Child with Canon van der Paele* executed in 1436 by the Flemish master, Jan van Eyck (Groeningemuseum, Bruges). The kneeling canon is introduced by his name saint, George, depicted in full armor. Pieces of solid metal are fitted close to the body. At first, the breastplate was worn over the coat of plates. Then it came to be worn independent of the coat of plates, and instead over a padded gambeson or pourpoint of quilted cloth or leather. The breastplate was initially held on by straps crossed in back; later, buckles on the side and skirt were used. As plate armor gradually evolved, a back plate was added to the breastplate. This *cuirass* began with a front and a back section that were joined under the arms with straps. In the mid-fifteenth century, the front and back each consisted of two or more pieces, held together with rivets in slots that allowed for movement. Jan van Eyck clearly depicted Saint George's *besagews*, which are hanging metal disks intended to protect the underarms, and the same shape protects the elbows as they move. Because Saint George's combat with a dragon is among the occasions that require one to wear armor, and this saint was a favorite medieval subject, artists have provided excellent documentation of armor in their many depictions of George and his reptilian rival. Not surprisingly, Saint George is the patron saint of armorers.

In art and in actuality, armor might be elegantly ornamented. It could be covered with fine fabrics such as silk. It might be painted. Decorations, including gold and gems, could be applied. Ornamental engraving was used from the early fifteenth century onward. One's coat-of-arms might be depicted, or a patron saint, or a decorative pattern.

Armorers began to be known by name. The *Armor of the Governor of Matsch*, from Churburg, was made in the Italian family workshop of the Corio brothers (Giovanni, Ambrogio, and Bellino), Giovanni da Garavalle, and Dionisio Corio in Milan, c. 1450 (Glasgow Museums: Art Gallery and Museum, Kelvingrove, 39–65e). The *Armor of Frederick I*, Count Palatine of the Rhine (1425–1476), was also made in Milan, in the Missaglia workshop of the brothers Antonio and Tommaso, c. 1450–1455 (Waffensammlungen of the Kunsthistorisches Museum, Vienna).

An example of Italian armor is provided by a suit constructed in Milan, c. 1490, of steel, leather, and velvet, now in the Metropolitan Museum of Art, New York. Italian armor places less emphasis on the slender silhouette and long lines, more emphasis on a so-called robust appearance than does contemporary German armor. The gauntlets evolved; the cuffs progressively lengthened to the extent that they might reach the elbows. At a time when everyone was required to be right-handed, the right and left hands were treated differently in accord with how each hand was used: thus, the right hand bent in two places—over the fingers and at the wrist, whereas the left hand bent only at the fingers. The helmet with a visor covering the entire face is known as an *armet* or *close helmet*. It has a single or double visor that is worn raised until the moment before the crucial contact, when it is dropped to protect the soldier's face.

Italy was very important in the production of armor; the main armor-producing cities were Milan and Brescia. From the thirteenth century onward, Italy exported armor throughout Europe. Milan exported not only the armor, but also the armorers to various cities in Italy, France, England, and elsewhere. In the late fifteenth and early sixteenth centuries, Italian armor reached its peak. In the second half of the sixteenth century, when the High Renaissance was superseded by the Mannerist style in Italy, the quality of Italian armor declined.

Dominance then shifted to the workshops of Germany and Austria, especially the cities of Augsburg, Nuremberg, Landshut, Cologne, and Innsbruck. The great armorers were very rich; Hans Grünwalt (c. 1440–1503) of Nuremberg is known to have owned six houses.

The styles of armor manufactured in Italy and Germany differ. Italian armorers preferred rounded smooth forms and simple lines, whereas German armorers emphasized slender forms with spiky broken surfaces and silhouettes. The many parallel ridges of the fluted surfaces are both decorative and practical in purpose because the ridges are able to deflect the blow of a sword or lance, causing it to glance off the body.

The *Armor of Archduke Max* (later Emperor Maximilian) and of *Archduke Sigmund of Tyrol*, also made c. 1480 in Augsburg by the armorer Lorenz Helmschmied (1427–1516), are seen in Photo 12.5. In the second half of the fifteenth century, a knight wore a full suit of plate armor that, in general, compared quite closely in style to contemporaneous cloth garments, metal workers following the fashions created in fabric (although influences also moved in the opposite direction). The silhouette of the suit of armor now mimics the graceful shape of costumes of the time



Photo 12.5 Lorenz Helmschmied (1427–1516), *Armor of Archduke Max* (later Emperor Maximilian) and *Archduke Sigmund of Tyrol*, German, made in Augsburg, fifteenth century. Kunsthistorisches Museum, Vienna. Erich Lessing/Art Resource, NY.

for the pinched waist. The shoes with long pointed toes, known as *poulaines*, so fashionable in contemporary secular attire (see Chapter 10, Color plate 23), were mimicked by defensive attire. The knight's shoes, *sollerets* or *sabatons*, were given long toes constructed of overlapping horizontal metal plates (*lames*) on loose rivets that allowed the foot to bend naturally, a fashion that merely added unwelcome weight and surely encumbered the wearer.

The two suits of armor in Photo 12.5 provide an overview of the various pieces of armor that comprise a *harness*—a complete suit of armor. Arm and leg armor was made with metal hinges on the outside and straps on the inside. *Greaves* protect the lower leg; *poleyns* protect the knees; *cuisse*s protect the thighs; and the *cuirass* protects the chest and back. The breastplate is constructed with a lower section intended to protect the wearer's abdomen. This lower portion flared from the waist in the form of a *fauld* composed of several overlapping horizontal lames that were attached to the lower edge of the breastplate by sliding rivets. *Gauntlets* protect the hands; *vambraces* protect the arms; and *counters* (*couters*) protect the elbows. The *rerebraces* on the upper arms were made of sliding lames to allow for some movement. *Pauldrons* protect the shoulders, the large size of the pauldrons intended to protect the armpit when the arm was raised. Fifteenth-century armor, like that of earlier centuries, was worn over a padded quilted garment—an *arming doublet* that had *arming points* used to tie the armor in place and to attach mail *gussets* beneath the armpits. Additionally, each piece of armor was lined with linen that was padded and quilted. And a helmet protects the head.

Helmets

Medieval helmets were of such varied shapes as to achieve almost the status of wearable sculpture. The Norman helmet of the eleventh century was characterized by a conical skull and descending rectangular nasal to protect the nose. It was made in one piece or of several plates riveted together. In the twelfth century a similarly shaped helmet appeared, although the nasal might be omitted. The thirteenth-century helmet with the flat top was quickly replaced by a more rounded or even pointed shape, so that a blow would slip off. The helmet type popular at the end of the fourteenth century was the *bascinet* (*basinet* or *bassinet*), equipped with *sights*, which are horizontal slits to see through, and *breaths*, many little holes on the lower front to breathe through. The pointed beak-like shape of the hinged visor was intended to cause a blow to glance off. A fine example is the *Lyle Basinet*, made in Milan, in the fourteenth century (Royal Armouries, Leeds, object no: IV, 470). A soldier's helmet, sword, and dagger might be attached to his breastplate by chains to avoid their loss in battle.

The *sallet* (*salade* or *schaller*) was to replace the bascinet in the mid-fifteenth century in northern Europe and was especially favored in Germany. An example is a Germany sallet, c. 1480, in the Wallace Collection,



Photo 12.6 Barbute, north Italian, c. 1440, iron. © Wallace Collection, London. The Bridgeman Art Library International.

London (A00079). The sallet has slits for the eyes, and a deep, rounded skull with a central ridge. The sallet has a tail at the back that was gradually made longer. A padded *gorget* (*bevor*) might be worn to protect the jaw. A *visor* could be attached to protect the face, although the sallet could also be worn open-faced.

The *barbute* was popular in fifteenth-century Italy at the same time the sallet was popular in the North. An example is the north Italian barbute seen in Photo 12.6, made of iron c. 1440. Constructed in one piece without a movable visor, the barbute has a slot for the eyes and nose in the shape of a wide T or Y. Although the peaked crown mimics the shape of a pointed Gothic arch, in fact the helmet's shape recalls that used by the classical Greeks.

A simple type of helmet is known as a *chapel-de-fer* in French or an *Eisenhut* in German, both meaning "iron hat." It is also called a *kettle hat*



Photo 12.7 *Helmet (sallet) in the Form of a Lion's Head*, Italian, c. 1470–1480, steel, copper-gilt, glass, and polychromy, h. 11 3/4 in. (30 cm.), wt. 8 lb. 4 oz. (3.7 kg.). The Metropolitan Museum of Art, New York, Harris Brisbane Dick Fund, 1923 (23.141). Image © The Metropolitan Museum of Art/Art Resource, NY.

because it looks much like a medieval cauldron or kettle. An example of a chapel-de-fer with a wide brim, made in Burgundy, c. 1475, of steel, is in the Metropolitan Museum of Art, New York. This chapel-de-fer is equipped with a *bevor*, which is a sort of gorget that covers not only the neck but also extends up to protect the lower portion of the face. There is debate concerning the date the chapel-de-fer was first manufactured; it may have been worn in early eleventh-century England, definitely was used at the end of the twelfth century, and persisted for several centuries thereafter.

While some medieval helmets are types, fairly standardized in shape, others are far more unusual. The helmet in the form of a *Lion's Head* seen in Photo 12.7 was made in Italy, c. 1470–1480. The copper-gilt lion's head is mounted over a steel sallet, which is lined with padded canvas. But this helmet was never intended to be worn in battle; instead, it is a parade helmet that must have been striking in effect. With such

work, the history of armor is moving out of the Middle Ages and into the Renaissance, for this is the oldest extant example of the Renaissance style of armor *all'antica* (in the antique style). It depicts the Nemean lion, killed by the mythological hero of antiquity, Hercules, who wore the lion's skin as a cloak and the lion's head as a helmet.

Medieval armor, although intended for the practical purpose of a soldier's physical protection in battle, was treated aesthetically, turned into a fine art, and raised far above what was required by its basic function. The result was a magnificent military mode. As noted in the Introduction to this volume, the medieval preference for ornamentation over austerity was an aesthetic that applied to all aspects of life. The importance of appearance, even where functionality would suffice or even be preferable, was demonstrated on the battlefields in the Middle Ages.

The disappearance of defensive armor is linked to the development of more effective weaponry. The *pollaxe*—a pole with an axe and spike point—could cut through the strongest armor of the era. Gunpowder is documented in Europe as early as 1260. In the second half of the fourteenth century, an explosive was already manufactured using the following recipe: four parts saltpetre; one part carbon; and one part sulfur. Early guns were made of bronze, lit by a wire heated red-hot. Handguns appeared. Although armor could be made strong enough to withstand a bullet, the armor was then too heavy and cumbersome for a soldier to bear. The aid of a squire when dressing for battle was increasingly necessary. Troops refused to wear their armor or had to be paid extra to do so. In the mid-sixteenth century, defensive armor for the equestrian or foot soldier became history. Although armor continued to be made throughout the sixteenth century, it was intended to be worn in parades and tournaments rather than in battle.

Conclusion

The medieval love of visual variety—in the diversity of materials employed and in the range of methods with which they were manipulated—resulted in the masterpieces studied in this volume. The accomplishments of medieval artists and artisans become even more impressive when the conditions under which they worked are considered.

Working Conditions

While today's workday may be extended into the darkness of night by merely turning on an electric light with the flick of a switch, the length of the medieval workday depended largely on the availability of sunlight. Stories of extremely long workdays may be somewhat deceptive as only during the warmer months were there many hours of sunlight and the winter workday, if not augmented by candlelight, must have been quite short. Further, there were many mandatory holidays devoted to saints.

An artist or artisan today often works in a climate-controlled environment in which the solution to cold is simply to turn up the thermostat, and to excessive heat may be to turn on a fan or air-conditioner. His medieval counterpart, however, in wintertime, while his fingers stiffened from the cold when the fire was inadequate and the workshop not insulated, might be obligated to continue to produce detailed work, requiring perfect small motor skills.

The acuity of vision needed to execute the detailed work favored during the Middle Ages begins to diminish for many people when in their late thirties and early forties. Eyeglasses were probably used initially

between the 1260s and 1280s; the earliest record of their use is around 1285 in Padua in conjunction with optical experiments made at the university there. Eyeglasses are first depicted in art in a painting made in 1352 by Tommaso di Modena in which a white-haired monk wears eyeglasses with circular lenses held in white frames, perched on the bridge of his nose. But eyeglasses were not available to the illuminators of the *Book of Kells* (Color plate 1) working c. 800 or to Master Hugo as he carved the *Bury Saint Edmunds Cross* (Photo 5.3) in the mid-twelfth century. It is almost as unlikely that eyeglasses were worn by the artists and artisans who created later medieval objects.

That said, the evaluation of an artist's intentions and ability must take into account what can—and cannot—be achieved when working in a specific medium. A distinction should be made between the restrictions inherently imposed by a certain technique and the artist's skills. If the work is figurative, and a degree of realism is sought, the artist's accomplishment is dependent on the medium in which he works. Fresco, for example, permits a more realistic image than mosaic. Different media are appropriate for different purposes and locations. Ivory carving, for example, because of its physical delicacy and small scale, is unsuitable for large exterior sculpture.

Final Thoughts

The modern viewer of medieval masterpieces is urged to keep in mind that a work created during the Middle Ages is unlikely to retain precisely the appearance intended by the artist who made it. The brightly colored and gilded surfaces on small ivory carvings and large wood and stone sculptures were abraded long ago. Paint on panels and walls is inclined to crack, peel, and flake over the centuries. Colors that survive may have shifted in tonality. Ivory and wood are likely to crack. The threads of wool and silk that make up tapestries and vestments weaken and may break over the centuries. Damage is done by accident (insects, moisture, changes in temperature) and by intent as styles change or when valuable materials are reused. We may ask ourselves if part of the appeal of medieval works of art, in fact, could be the impact of age on them. The softened and muted quality that is so appealing and endearing in medieval works of art was not intended by the artists and artisans of the Middle Ages.

Most medieval works are not seen today in their original intended contexts. The clear light in a museum display case is very different from

the soft, colored light or the light of flickering candles in medieval spaces. Even the most skillful of museum installations cannot take the visitor back to the churches and cathedrals, the fortresses and castles, of the Middle Ages. Certain sculptures and tapestries are still in their original locations, but they are the exceptions. The opportunity to see the medieval stained glass windows, murals, and mosaics that remain in situ is the traveler's reward.

The many examples studied in this volume indicate that different materials and methods were favored at different times and in different places during the Middle Ages. This is probably due to human nature's constant quest for change combined with (and controlled by) practical restrictions imposed by climate, the availability of natural materials, financial resources, and the needs of patrons.

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